COMPANY UPDATE

2025. 10. 31

Scan to go to
Research Center report database

Tech Team

Jongwook Lee
Team Leader
jwstar.lee@samsung.com

Kyoungbeen Kim
Research Associate
kyoungbeen.kim@samsung.com

Samsung Electronics (005930)

Same game, new stage

- With DRAM prices rising, earnings forecasts for Samsung Electronics (SEC) have continued to be revised upward. The company plans to make aggressive investments to expand its market share.
- Believing 2026 operating profit will reach KRW71t, we raise our target price to KRW130,000 and reiterate BUY on the stock.

AT A GLANCE

BUY

Target price	KRW130,000	24.9%
Current price	**KRW104,100**	
Market cap	KRW616.2t/USD432.0b	
Shares (float)	5,919,637,922 (78.3%)	
52-week high/low	KRW104,100/KRW49,900	
Avg daily trading value (60-day)	KRW1,584.2b/ USD1,110.5m	

ONE-YEAR PERFORMANCE

	1M	6M	12M
Samsung Electronics (%)	24.1	87.6	76.1
Vs Kospi (%pts)	4.0	17.3	11.8

KEY CHANGES

(KRW)	New	Old	Diff
Recommend.	BUY	BUY	
Target price	130,000	110,000	18.2%
2024E EPS	4,950	4,950	0.0%
2025E EPS	4,813	4,813	0.0%

SAMSUNG vs THE STREET

No of estimates	25
Target price	115,640
Recommendation	4.0

※ Rating: 4 < → BUY, 3 = HOLD, 2 > → SELL

WHAT'S THE STORY?

Raising target price and reiterating BUY: The party is still in full swing. While the magnitude of recent chip price hikes is notable, what matters more is the absence of weakening demand or rising supply. Cloud service providers again delivered earnings surprises in 3Q, confirming that their investments are translating into profit. SEC reaffirmed plans to ramp up investment through 2026. Although its capex plans are aggressive, production is unlikely to expand meaningfully next year. The emergence of AI and new semiconductor trends has been a challenge, but the competitive landscape has shifted toward commodity DRAM. Supply shortages and capacity expansions in this segment are conditions in which SEC has historically excelled. Despite the AI narrative, the playbook remains unchanged.

(Continued on the next page)

SUMMARY FINANCIAL DATA

(KRWb)	2023	2024	2025E	2026E
Revenue	258,935	300,871	323,672	378,768
Operating profit	6,567	32,726	37,045	70,640
Net profit (adj)	15,487	34,451	33,258	59,684
EPS (adj) (KRW)	2,131	4,950	4,813	8,647
EPS (adj) growth (% y-y)	-73.6	132.3	-2.8	79.7
EBITDA margin (%)	17.5	25.0	25.2	31.2
ROE (%)	4.1	9.0	8.0	13.2
P/E (adj) (x)	36.8	10.7	21.6	12.0
P/B (x)	1.5	0.9	1.7	1.5
EV/EBITDA (x)	10.0	3.6	7.2	4.7
Dividend yield (%)	1.8	2.7	1.4	1.4

Source: Company data, Samsung Securities estimates

Samsung Securities

We raise our target price to KRW130,000 (based on 1.87x P/B; two standard deviations above the post-2020 average). The multiple reflects an expected ROE of around 15%, incorporating roughly a 10% premium. Given ongoing DRAM price hikes and SEC's unique position as the only memory maker able to raise both prices and volumes simultaneously, we believe this valuation is justified. We reiterate our BUY rating.

2026 operating profit to reach KRW71t: We revise up our 2026 operating profit forecast from KRW60t to KRW71t, lifting our DRAM earnings estimate from KRW42t to KRW53t assuming higher ASPs through 1H26 and low bit shipment growth next year. Commodity DRAM accounts for 88% of total DRAM operating profit. Expecting this trend to continue, we also narrow our 2026 operating loss forecast for the foundry business by around KRW610b and trim our operating profit estimates for the visual display (VD) and digital appliances (DA) divisions by roughly KRW630b.

Outlook for commodity DRAM: Investors are watching the price surge in commodity DRAM—particularly D5, LPD5, and GD7, which are high-value chips used in data center servers. Like its peers, SEC is unable to meet rising demand in the near term due to low inventories and limited capacity expansion outside of high-bandwidth memory (HBM). The inflection point in DRAM prices is now confirmed, and ASPs should rise further in 4Q. We estimate a 4Q ASP increase of 18% for commodity DRAM and 15% for overall DRAM (including HBM). Although the pace may moderate after 1Q26, the race to secure DRAM is far from over. With low inventories and 2026 bit production growth projected at just 10% (excluding HBM), supply will remain tight. In the near term, peaks in ASP growth and share price momentum will likely coincide, but with the AI-driven upswing showing no clear end, investors are likely to keep favoring profitable memory companies trading at still-reasonable valuations.

Planning to expand investment aggressively in 2026: SEC announced plans to increase investment in memory semiconductors next year. We expect total investment to reach KRW36t-39t (vs KRW34t in 2025), covering not only equipment but also construction—such as new cleanrooms at the P4 fab, structural work at the P5 fab, and completion of the Taylor fab. However, this scale of investment is unlikely to resolve supply shortages in 2026. While the P4 fab could add capacity for commodity DRAM production, meaningful output increases are more likely from 2027 than 2026. If cleanrooms initially allocated for the foundry business are repurposed for DRAM, production could rise significantly in 2027. Even then, SEC should continue to enjoy solid growth given competitors' capacity constraints.

SEC's options for DRAM in 2026: Can SEC expand its supply volume faster than peers while commodity DRAM remains in structural shortage? We believe it has limited but viable options. First, it could boost D1c production, allowing commodity DRAM output to begin increasing after 2Q26. Even modest growth could lift its bit sales growth more than rivals. The Phase 2 facility at the P4 fab could also be assigned to commodity DRAM; if wafer-out begins in 2026, that would represent the only meaningful new capacity addition next year. Any visible pickup in bit production growth should serve as a near-term catalyst for the stock.

Strong HBM demand: We forecast that SEC's HBM bit growth will exceed 70% in 2026, outpacing the industry average of around 50%. The company should narrow its gap with a rival ahead of the HBM4 launch, although it is not yet fully competitive. Shipments of HBM3E are ramping up successfully, and we expect HBM3E to remain the mainstay product next year.

NAND business to head north: SEC's NAND shipments rose 10% q-q in 3Q, helping this business return to profitability. Strong demand for both TLC and QLC NAND points to potential supply shortages in 2026. Although margins remain thin across the NAND business, NAND earnings should improve y-y thanks to an absence of capacity additions in 2026 (*ie*, bit production growth).

Foundry unit to normalize: Foundry capex is expected to rise from KRW7t in 2025 to more than KRW10t in 2026, signaling a move toward normalization. We forecast that the unit will turn profitable in 2027, but a narrowing of operating losses alone could prompt investors to begin revaluing the business.

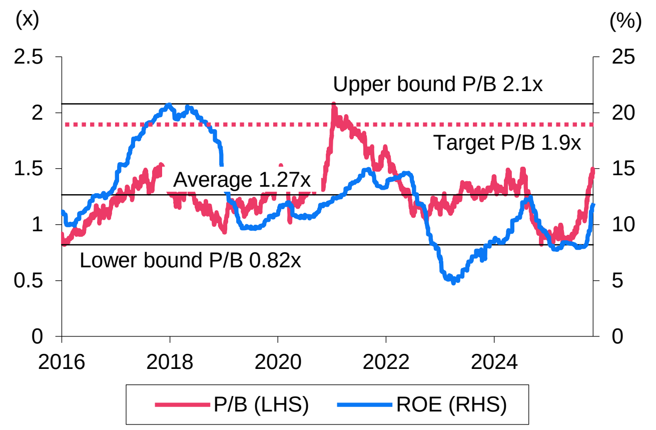
Concern over rising cost pressure at the smartphone division: The mobile eXperience (MX) division posted a 3Q operating profit of KRW3.6t, underscoring the importance of product competitiveness even in a mature market with limited growth potential. We see potential cost pressure in 2026 from rising chip prices. The year 2027 should mark the start of a new AI-driven form factor era, during which the MX division's competitiveness will be tested anew.

Samsung Electronics: Target-price calculation

(KRW)		Notes
BVPS	70,170	2026E
Target P/B (x)	1.9	Forward P/B +2SD (2020-)
Fair price per share	131,218	
Target price	**130,000**	
Current price	104,100	
Upside (%)	24.9	

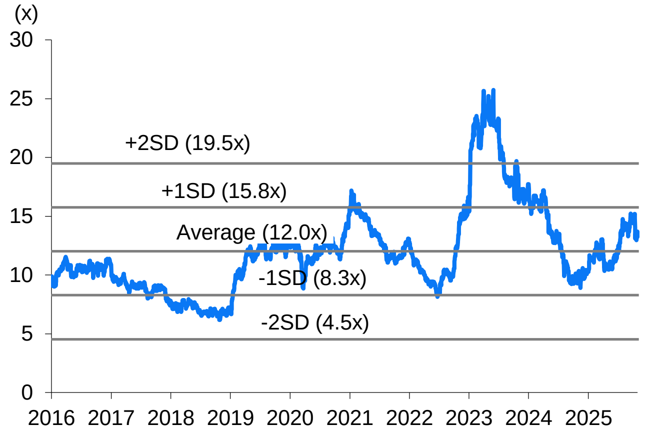
Source: Samsung Securities estimates

Samsung Electronics: Forward P/B vs ROE



Source: QuantiWise, Samsung Securities

Samsung Electronics: Forward P/E



Source: QuantiWise, Samsung Securities

Samsung Electronics: Revisions to full-year forecasts

(KRWb)	2025			2026		
	Old	New	Diff (%)	Old	New	Diff (%)
Sales	**324,883**	**323,672**	**-0.4**	**372,894**	**378,768**	**1.6**
Semiconductor	125,400	123,171	-1.8	168,748	176,201	4.4
DRAM	67,926	68,021	0.1	102,936	110,529	7.4
NAND	29,921	29,184	-2.5	35,108	36,654	4.4
LSI	27,305	25,718	-5.8	30,582	28,804	-5.8
Display	29,715	29,229	-1.6	31,201	30,690	-1.6
Telecom	123,276	124,781	1.2	122,374	121,397	-0.8
Handset	114,739	119,171	3.9	113,655	118,147	4.0
CE and Harman	72,378	72,378	0.0	74,694	74,694	0.0
Operating profit	**35,692**	**37,045**	**3.8**	**59,555**	**70,640**	**18.6**
Semiconductor	16,130	17,868	10.8	40,486	52,276	29.1
DRAM	22,985	23,956	4.2	41,781	52,909	26.6
NAND	25	-27	-209.8	1,641	1,688	2.9
LSI	-6,880	-6,061	-11.9	-2,936	-2,321	-20.9
Display	3,411	3,544	3.9	3,628	3,750	3.4
Telecom	13,391	13,487	0.7	12,653	12,458	-1.5
Handset	13,129	13,230	0.8	12,436	12,241	-1.6
CE and Harman	2,675	2,062	-22.9	2,787	2,156	-22.7

Source: Company data, Samsung Securities estimates

Samsung Electronics: Results and forecasts

(KRWb)	1Q25	2Q25	3Q25	4Q25E	1Q26E	2Q26E	3Q26E	4Q26E	2024	2025E	2026E
Sales	**79,048**	**74,598**	**87,319**	**82,707**	**91,933**	**93,510**	**97,781**	**95,543**	**300,866**	**323,672**	**378,768**
Chg (% y-y)	9.9	0.7	10.4	9.1	16.3	25.4	12.0	15.5	12.4	13.4	14.4
Semiconductor	25,125	27,888	33,081	36,828	39,036	43,444	46,672	46,835	111,591	123,171	176,201
DRAM	13,168	14,215	18,571	22,066	23,907	27,223	29,564	29,836	54,227	68,021	110,529
NAND	5,936	6,990	8,161	8,097	8,386	9,111	10,140	9,017	30,958	29,184	36,654
Foundry & LSI	6,021	6,682	6,348	6,666	6,744	7,110	6,968	7,982	26,510	25,718	28,804
Display	5,900	6,400	8,100	8,829	6,815	7,392	8,505	7,979	29,133	29,229	30,690
Telecom & Handset	36,938	29,228	34,107	24,508	33,435	30,390	30,068	27,503	117,233	124,781	121,397
CE and Hardman	17,923	17,882	18,031	18,542	18,648	18,284	18,536	19,226	70,678	72,378	74,694
Operating profit	**6,685**	**4,726**	**12,193**	**13,441**	**16,023**	**17,229**	**18,860**	**18,528**	**32,726**	**37,045**	**70,640**
Semiconductor	1,122	411	7,049	9,286	10,931	13,096	14,597	13,652	15,117	17,868	52,276
DRAM	3,675	3,242	7,337	9,702	11,058	13,097	14,495	14,259	16,720	23,956	52,909
NAND	-265	-249	163	324	352	610	527	198	3,837	-27	1,688
Foundry & LSI	-2,288	-2,582	-451	-740	-479	-611	-425	-806	-5,440	-6,061	-2,321
Display	483	506	1,231	1,324	806	436	953	1,556	3,761	3,544	3,750
Telecom & Handset	4,324	3,106	3,598	2,459	3,615	2,980	2,994	2,869	10,695	13,487	12,458
CE and Hardman	671	703	315	372	671	717	317	451	3,058	2,062	2,156
Operating margin (%)	**8.5**	**6.3**	**14.0**	**16.3**	**17.4**	**18.4**	**19.3**	**19.4**	**10.9**	**11.4**	**18.6**
Semiconductor	4.5	1.5	21.3	25.2	28.0	30.1	31.3	29.1	13.5	14.5	29.7
DRAM	27.9	22.8	39.5	44.0	46.3	48.1	49.0	47.8	30.8	35.2	47.9
NAND	-4.9	-3.9	0.0	0.6	4.0	7.0	5.0	-4.4	12.3	-0.1	4.6
Foundry & LSI	-38.0	-38.6	-7.1	-11.1	-7.1	-8.6	-6.1	-10.1	-20.5	-23.6	-8.1
Display	8.2	7.9	15.2	15.0	11.8	5.9	11.2	19.5	12.9	12.1	12.2
Telecom & Handset	11.7	10.6	10.5	10.0	10.8	9.8	10.0	10.4	9.1	10.8	10.3
CE and Hardman	3.7	3.9	1.7	2.0	3.6	3.9	1.7	2.3	4.3	2.8	2.9
Assumptions for bit growth and ASP changes											
DRAM bit growth (% q-q)	1.5	11.5	14.0	3.0	-2.8	6.3	3.8	-0.5	12.8	8.4	15.6
DRAM ASP chg (% q-q)	-19.5	1.9	14.0	15.1	10.5	9.7	5.4	2.9	65.3	13.0	44.0
NAND bit growth (% q-q)	-12.4	27.7	10.1	-10.0	-5.0	7.0	11.0	-5.0	15.1	-0.2	6.5
NAND ASP chg (% q-q)	-13.7	-2.5	1.5	4.0	2.0	1.0	-1.0	-10.0	43.6	-8.0	21.1

Source: Company data, Samsung Securities estimates

Income statement

Year-end Dec 31 (KRWb)	2022	2023	2024	2025E	2026E
Sales	**302,231**	**258,935**	**300,871**	**323,672**	**378,768**
Cost of goods sold	190,042	180,389	186,562	201,197	203,578
Gross profit	**112,190**	**78,547**	**114,309**	**122,475**	**175,190**
Gross margin (%)	37.1	30.3	38.0	37.8	46.3
SG&A expenses	68,813	71,980	81,583	85,430	104,550
Operating profit	**43,377**	**6,567**	**32,726**	**37,045**	**70,640**
Operating margin (%)	14.4	2.5	10.9	11.4	18.6
Non-operating gains (losses)	**3,064**	**4,439**	**4,804**	**7,299**	**8,939**
Financial profit	20,829	16,100	16,703	20,091	19,797
Financial costs	19,028	12,646	12,986	13,993	12,070
Equity-method gains (losses)	1,091	888	751	1,000	1,000
Other	172	97	335	201	211
Pre-tax profit	**46,440**	**11,006**	**37,530**	**44,344**	**79,579**
Taxes	-9,214	-4,481	3,078	11,086	19,895
Effective tax rate (%)	-19.8	-40.7	8.2	25.0	25.0
Profit from continuing operations	55,654	15,487	34,451	33,258	59,684
Profit from discontinued operations	0	0	0	0	0
Net profit	**55,654**	**15,487**	**34,451**	**33,258**	**59,684**
Net margin (%)	18.4	6.0	11.5	10.3	15.8
Net profit (controlling interests)	54,730	14,473	33,621	32,457	58,246
Net profit (non-controlling interests)	924	1,014	830	801	1,438
EBITDA	82,484	45,234	75,357	81,561	118,220
EBITDA margin (%)	27.3	17.5	25.0	25.2	31.2
EPS (parent-based) (KRW)	8,057	2,131	4,950	4,813	8,647
EPS (consolidated) (KRW)	8,193	2,280	5,072	4,932	8,861
Adjusted EPS (KRW)*	8,057	2,131	4,950	4,813	8,647

Balance sheet

Year-end Dec 31 (KRWb)	2022	2023	2024	2025E	2026E
Current assets	**218,471**	**195,937**	**227,062**	**238,835**	**288,541**
Cash & equivalents	114,784	91,772	112,615	120,472	149,712
Accounts receivable	35,722	36,647	43,623	46,929	54,917
Inventories	52,188	51,626	51,755	50,921	59,914
Other current assets	80,880	38,582	77,979	83,885	98,158
Fixed assets	**229,954**	**259,969**	**287,470**	**295,538**	**309,430**
Investment assets	23,696	20,680	24,349	25,933	29,055
Tangible assets	168,045	187,256	205,945	213,261	224,735
Intangible assets	20,218	22,742	23,739	22,907	22,203
Other long-term assets	17,994	29,291	33,437	33,437	33,437
Total assets	**448,425**	**455,906**	**514,532**	**534,372**	**597,971**
Current liabilities	**78,345**	**75,719**	**93,326**	**88,203**	**99,316**
Accounts payable	10,645	11,320	12,370	13,308	15,573
Short-term debt	5,147	7,115	13,173	11,173	9,173
Other current liabilities	62,553	57,285	67,784	63,723	74,570
Long-term liabilities	**15,330**	**16,509**	**19,014**	**18,240**	**20,673**
Bonds & long-term debt	570	538	21	21	21
Other long-term liabilities	14,760	15,971	18,993	18,219	20,652
Total liabilities	**93,675**	**92,228**	**112,340**	**106,444**	**119,988**
Owners of parent equity	**345,186**	**353,234**	**391,688**	**416,623**	**465,239**
Capital stock	898	898	898	898	898
Capital surplus	4,404	4,404	4,404	4,404	4,404
Retained earnings	337,946	346,652	370,513	393,293	441,909
Other	1,938	1,280	15,873	18,028	18,028
Non-controlling interests' equity	**9,563**	**10,444**	**10,504**	**11,306**	**12,744**
Total equity	**354,750**	**363,678**	**402,192**	**427,929**	**477,982**
Net debt	-104,450	-79,086	-93,285	-105,350	-136,589

Cash flow statement

Year-end Dec 31 (KRWb)	2022	2023	2024	2025E	2026E
Cash flow from operations	**62,181**	**44,137**	**72,983**	**70,391**	**100,245**
Net profit	55,654	15,487	34,451	33,258	59,684
Non-cash profit and expenses	33,073	36,520	42,947	49,047	59,555
Depreciation	35,952	35,532	39,650	41,684	44,875
Amortization	3,156	3,134	2,981	2,831	2,705
Other	-6,034	-2,147	316	4,532	11,976
Changes in A/L from operating activities	-16,999	-5,459	-1,568	-5,604	-4,922
Cash flow from investments	**-31,603**	**-16,923**	**-85,382**	**-54,710**	**-68,041**
Change in tangible assets	-49,213	-57,513	-51,250	-49,000	-56,350
Change in financial assets	16,606	42,412	-36,218	-4,464	-10,787
Other	1,004	-1,822	2,087	-1,246	-904
Cash flow from financing	**-19,390**	**-8,593**	**-7,797**	**-13,884**	**-11,630**
Change in debt	-8,059	2,353	6,644	-4,207	-2,000
Change in equity	0	0	0	0	0
Dividends	-9,814	-9,864	-10,889	-9,677	-9,630
Other	-1,517	-1,081	-3,553	0	0
Change in cash	-5,957	-23,012	20,843	7,858	29,240
Cash at beginning of year	120,740	114,784	91,772	112,615	120,472
Cash at end of year	114,784	91,772	112,615	120,472	149,712
Gross cash flow	**88,728**	**52,007**	**77,398**	**82,306**	**119,239**
Free cash flow	**12,751**	**-13,474**	**21,576**	**21,391**	**43,895**

Note: *Excluding one-off items;
**Fully diluted, excluding one-off items;
***From companies subject to equity-method valuation
Source: Company data, Samsung Securities estimates

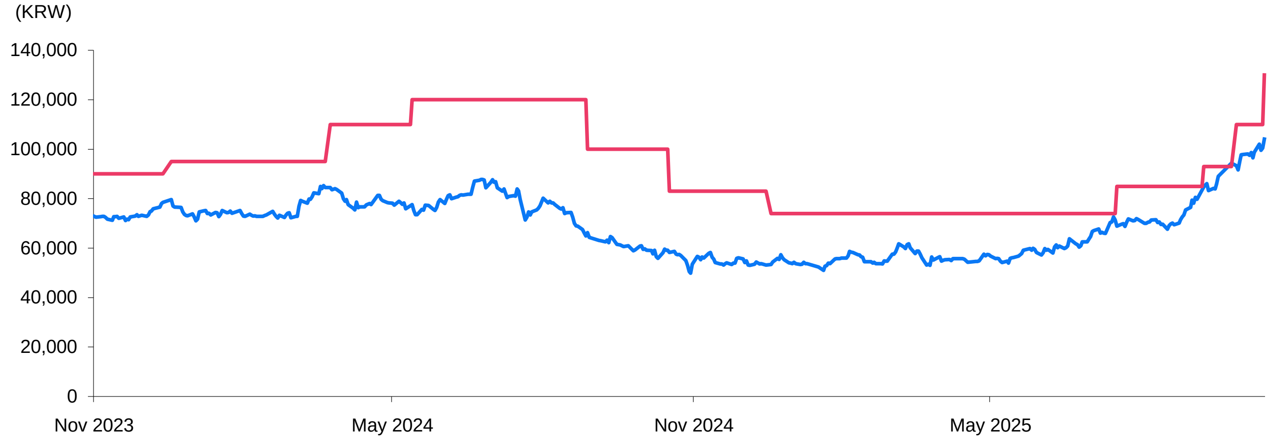
Financial ratios

Year-end Dec 31	2022	2023	2024	2025E	2026E
Growth (%)					
Sales	8.1	-14.3	16.2	7.6	17.0
Operating profit	-16.0	-84.9	398.3	13.2	90.7
Net profit	39.5	-72.2	122.5	-3.5	79.5
Adjusted EPS**	39.5	-73.6	132.3	-2.8	79.7
Per-share data (KRW)					
EPS (parent-based)	8,057	2,131	4,950	4,813	8,647
EPS (consolidated)	8,193	2,280	5,072	4,932	8,861
Adjusted EPS**	8,057	2,131	4,950	4,813	8,647
BVPS	50,817	52,002	57,981	62,837	70,170
DPS (common)	1,444	1,444	1,446	1,452	1,452
Valuations (x)					
P/E***	6.9	36.8	10.7	21.6	12.0
P/B***	1.1	1.5	0.9	1.7	1.5
EV/EBITDA	3.4	10.0	3.6	7.2	4.7
Ratios (%)					
ROE	17.1	4.1	9.0	8.0	13.2
ROA	12.7	3.4	7.1	6.3	10.5
ROIC	23.4	3.6	10.6	9.3	16.8
Payout ratio	15.8	59.6	25.6	26.1	14.5
Dividend yield (common)	2.6	1.8	2.7	1.4	1.4
Net debt to equity	-29.4	-21.7	-23.2	-24.6	-28.6
Interest coverage (x)	56.8	7.1	36.2	38.1	88.6

Compliance notice

- As of 10/30 2025, Samsung Securities shared group affiliation with Samsung Electronics.
- As of 10/30 2025, the covering analyst(s) did not own any shares, or debt instruments convertible into shares, of any company covered in this report.
- As of 10/30 2025, Samsung Securities' holdings of shares and debt instruments convertible into shares of each company covered in this report would not, if such debt instruments were converted, exceed 1% of each company's outstanding shares.
- This report has been prepared without any undue external influence or interference, and accurately reflects the views of the analyst(s) covering the company or companies herein.
- All material presented in this report, unless specifically indicated otherwise, is under copyright to Samsung Securities.
- Neither the material nor its content (including copies) may be altered in any form, or by any means transmitted, copied, or distributed to another party, without prior express written permission from Samsung Securities.
- This memorandum is based upon information available to the public. While we have taken all reasonable care to ensure its reliability, we do not guarantee its accuracy or completeness. This memorandum is not intended to be an offer, or a solicitation of any offer, to buy or sell the securities mentioned herein. Samsung Securities shall not be liable whatsoever for any loss, direct or consequential, arising from the use of this memorandum or its contents. Statements made regarding affiliates of Samsung Securities are also based upon publicly available information and do not necessarily represent the views of management at such affiliates.
- This material has not been distributed to institutional investors or other third parties prior to its publication.

Target price changes in past two years



Rating changes over past two years (adjusted share prices)

Date	2023/7/27	2024/1/2	4/8	5/28	9/12	11/1	2025/1/2	8/1	9/23	10/13	10/31
Recommendation	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY
Target price (KRW)	90000	95000	110000	120000	100000	83000	74000	85000	93000	110000	130000
Gap* (average)	-22.05	-20.74	-28.36	-34.45	-39.49	-33.92	-21.93	-15.05	-6.95	-10.64	
(max or min)**	-12.78	-10.21	-23.55	-26.83	-35.30	-29.28	-1.89	-1.76	1.51	-5.36	

Note: * [(average, maximum, or minimum share price over duration of target price minus target price) / target price] x 100%
** Maximum/minimum share price if new target is higher/lower than market close on the business day prior to target price change

Samsung Securities uses the following investment ratings*

Company

BUY Expected to increase in value by 15% or more within 12 months and is highly attractive within sector

HOLD Expected to increase/decrease in value by less than 15% within 12 months

SELL Expected to decrease in value by 15% or more within 12 months

Industry

OVERWEIGHT Expected to outperform market by 5% or more within 12 months

NEUTRAL Expected to outperform/underperform market by less than 5% within 12 months

UNDERWEIGHT Expected to underperform market by 5% or more within 12 months

* Note: Effective Jul 27, 2023, BUY, HOLD, and SELL criteria are based on expectations of share-price moves of 15% or more within 12 months

Percentage of ratings in 12 months prior to 2025.09.30

BUY(83.5%)·HOLD(16.5%)·SELL(0%)

Global Disclosures & Disclaimers

General

This research report is for information purposes only. It is not and should not be construed as an offer or solicitation of an offer to purchase or sell any securities or other financial instruments or to participate in any trading strategy. This report does not provide individually tailored investment advice. This report does not take into account individual client circumstances, objectives, or needs and is not intended as recommendations of particular securities, financial instruments or strategies to any particular client. The securities and other financial instruments discussed in this report may not be suitable for all investors. The recipient of this report must make its own independent decisions regarding any securities or financial instruments mentioned herein and investors should seek the advice of a financial adviser.

This report may not be altered, reproduced, distributed, transmitted or published in whole or in part for any purpose. References to "Samsung Securities" are references to any company in the Samsung Securities, Co., Ltd. group of companies.

Samsung Securities and/or other affiliated companies, its and their directors, officers, representatives, or employees may have long or short positions in any of the securities or other financial instruments mentioned in this report or of issuers described herein and may purchase and/or sell, or offer to purchase and/or sell, at any time, such securities or other financial instruments in the open market or otherwise, as either a principal or agent. Any pricing of securities or other financial instrument contained herein is as of the close of market for such day, unless otherwise stated. Opinions and estimates contained herein constitute our judgment as of the date of this report and are subject to change without notice.

The information provided in this report is provided "AS IS". Although the information contained herein has been obtained from sources believed to be reliable, no representation or warranty, either expressed or implied, is provided by Samsung Securities in relation to the accuracy, completeness or reliability of such information or that such information was provided for any particular purpose and Samsung Securities expressly disclaims any warranties of merchantability or fitness for a particular purpose. Furthermore, this report is not intended to be a complete statement or summary of the securities, markets or developments referred to herein.

Samsung Securities does not undertake that investors will obtain any profits, nor will it share with investors any investment profits. Samsung Securities, its affiliates, or any of its and their affiliates, directors, officers, employees or agents disclaim any and all responsibility or liability whatsoever for any loss (direct or consequential) or damage arising out of the use of all or any part of this report or its contents or otherwise arising in connection therewith. Information and opinions contained herein are subject to change without notice. Past performance is not indicative of future results. Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. For investment advice, trade execution or other enquiries, clients should contact their local sales representative. Any opinions expressed in this report are subject to change without notice and may differ or be contrary to opinions expressed by other business areas or groups of Samsung Securities. Any analysis contained herein is based on numerous assumptions. Different assumptions may result in materially different results. Samsung Securities is under no obligation to update or keep current the information contained herein. Samsung Securities relies on information barriers to control the flow of information contained in one or more areas or groups within Samsung Securities into other areas or groups of Samsung Securities. Any prices stated in this report are for information purposes only and do not represent valuations for individual securities or other financial instruments. Samsung Securities makes no representation that any transaction can or could have been effected at those prices and any prices contained herein may not reflect Samsung Securities' internal books and records or theoretical model-based valuations and may be based on certain assumptions. Different assumptions by Samsung Securities or any other source may yield substantially different results. Additional information is available upon request.

For reports to be distributed to US:

Securities research is prepared, issued and exclusively distributed by Samsung Securities Co., Ltd., an organization licensed with the Financial Supervisory Service of South Korea. This research may be distributed in the United States only to major institutional investors as defined in Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended, and may not be circulated to any other person otherwise. All transactions by U.S. investors involving securities discussed in this report must be effected through Samsung Securities (America) Inc., a broker-dealer registered with the U.S. Securities & Exchange Commission and a member of the Financial Industry Regulatory Authority/SIPC, and not through any non-U.S. affiliate thereof. The analysts listed [on the front of this report] are employees of Samsung Securities Co., Ltd., or a non-U.S. affiliate thereof, and are not registered/qualified as research analysts under applicable U.S. rules and regulations and may not be subject to U.S. restrictions on communications with covered companies, public appearances, and trading securities held by a research analyst account.

For reports to be distributed to UK:

This report is not an invitation nor is it intended to be an inducement to engage in investment activity for the purpose of section 21 of the Financial Services and Markets Act 2000 of the United Kingdom ("FSMA"). To the extent that this report does constitute such an invitation or inducement, it is directed only at (i) persons who are investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2001 (as amended) of the United Kingdom (the "Financial Promotion Order"); (ii) persons who fall within Articles 49(2)(a) to (d) ("high net worth companies, unincorporated associations etc.") of the Financial Promotion Order; and (iii) any other persons to whom this report can, for the purposes of section 21 of FSMA, otherwise lawfully be made (all such persons together being referred to as "relevant persons").

Any investment or investment activity to which this report relates is available only to relevant persons and will be engaged in only with relevant persons. Persons who are not relevant persons must not act or rely on this report.

For reports to be distributed to Korea:

This report is for private circulation only, not for sale, and is issued and distributed only to persons permitted under the laws and regulations of Korea.

For reports to be distributed to Singapore:

This report is provided pursuant to the financial advisory licensing exemption under Regulation 27(1)(e) of the Financial Advisers Regulation of Singapore and accordingly may only be provided to persons in Singapore who are "institutional investors" as defined in Section 4A of the Securities and Futures Act, Chapter 289 of Singapore. This report is intended only for the person to whom Samsung Securities has provided this report and such person may not send, forward or transmit in any way this report or any copy of this report to any other person.

Analyst certification

The views expressed in this research report accurately reflect the personal views of the analyst(s) about the subject securities or issuers and no part of the compensation of such analyst(s) was, is, or will be directly or indirectly related to the inclusion of specific recommendations or views in this research report. The analyst(s) principally responsible for the preparation of this research report receives compensation based on determination by research management and senior management (not including investment banking), based on the overall revenues, including investment banking revenues of Samsung Securities Co., Ltd. and its related entities and has taken reasonable care to achieve and maintain independence and objectivity in making any recommendations.

Samsung Securities

SAMSUNG SECURITIES

Samsung Electronics Bldg., 11, 74-gil,
Seochodae-ro, Seocho-gu, Seoul, Korea 06620
Tel: 02 2020 8000 / www.samsungpop.com

Family Center: 1588 2323

Voice Of Customer: 080 911 0900

For more information, please call our sales representatives:

LONDON

Samsung Securities Europe Limited
1st Floor, 30 Gresham Street, London EC2V 7PG UK
Tel. 44-207-776-4311
Fax. 44-203-837-9219

NEW YORK

Samsung Securities America Limited
1330 Avenue of the Americas. 10th Floor. New York, NY 10019
Tel: 1-212-972-2454
Fax: 1-212-972-2704

HONG KONG

Samsung Securities (Asia) Limited
Suite 4511, Two International Finance Center,
8 Finance Street, Central, Hong Kong
Tel: 852-3411-3608
Fax: 852-2114-0290

BEIJING

Samsung Securities Beijing Representative Office
Rm. 910, The Exchange Building No 118 JianGuo Lu, Chao Yang District, Beijing, China
Tel: 86-10-6522-1855 (extension 7891)
Fax: 86-10-6522-1855 (extension 7889)

TOKYO

Samsung Securities Tokyo Representative Office
#106-8532 19F, Roppongi T-Cube 3-1-1,
Roppongi Minato-ku Tokyo, Japan
Tel: 81-3-6333-2952
Fax: 81-3-6333-2953