COMPANY UPDATE

2026. 1. 20

EV/Mobility Team

Esther Yim
Team Leader
esther.yim@samsung.com

Hyunji Kim
Research Associate
hyunzi.kim@samsung.com

Scan to go to
Research Center report database

Hyundai Motor (005380)

The leading player in robotics

- Google and Nvidia have chosen Boston Dynamics as a hardware partner for physical AI. This decision is based on Hyundai Motor's (HMC) and Kia's mass-production capabilities, value chain, and the action datasets generated from their manufacturing plants.
- The Korean carmakers' manufacturing plants are now more than mere car factories. They have been redefined as digital factories generating action datasets for robots, making sum-of-the-parts valuation models less suitable.
- HMC is likely to begin recognizing sales of 'MobED' mobile robots in 2H26. The time has come to adjust its peer group.

WHAT'S THE STORY?

Redefining HMC's peer group—raising target price by 62.5%: Hyundai Motor Group's (HMG) unveiling of a robotics roadmap necessitates the redefinition of Hyundai Motor's (HMC) peer group. Globally, only six companies are pursuing expansion into EVs, autonomous driving, and robotics.

- **Classification based on robotic AI technology internalization:** Companies that own a full technology stack of AI foundation/world models, robot action models, AI chips, and robot hardware design are Tesla (trading at 202x P/E) and Xpeng (58x P/E). Xiaomi, BYD, and Li Auto have only announced plans to enter the robotics business based on autonomous driving technology—and for this technology and AI chips, they collaborate with tech firms. These three companies are trading at P/E multiples of 16-20x.

(Continued on the next page)

AT A GLANCE

BUY

Target price	KRW650,000	35.4%
Current price	**KRW480,000**	
Market cap	KRW98.3t/USD66.7b	
Shares (float)	204,757,766 (65.9%)	
52-week high/low	KRW480,000/KRW177,500	
Avg daily trading value (60-day)	KRW494.1b/ USD335.3m	

ONE-YEAR PERFORMANCE

	1M	6M	12M
Hyundai Motor (%)	66.4	128.0	127.0
Vs Kospi (%pts)	36.4	48.2	16.8

KEY CHANGES

(KRW)	New	Old	Diff
Recommend.	BUY	BUY	
Target price	650,000	650,000	0.0%
2025E EPS	40,971	40,971	0.0%
2026E EPS	47,649	47,649	0.0%

SAMSUNG vs THE STREET

No of estimates	26
Target price	456,538
Recommendation	4.0

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

SUMMARY FINANCIAL DATA

	2024	2025E	2026E	2027E
Revenue (KRWb)	175,231	187,846	203,766	211,786
Operating profit (KRWb)	14,240	12,406	13,709	14,541
Net profit (adj) (KRWb)	13,230	11,851	13,037	13,915
EPS (adj) (KRW)	46,042	40,971	47,649	50,861
EPS (adj) growth (% y-y)	5.6	-11.0	16.3	6.7
EBITDA margin (%)	10.6	9.1	9.1	9.2
ROE (%)	12.4	9.7	10.4	10.3
P/E (adj) (x)	4.6	7.2	10.1	9.4
P/B (x)	0.5	0.7	1.0	0.9
EV/EBITDA (x)	10.5	13.7	15.2	14.7
Dividend yield (%)	5.7	4.0	2.7	2.8

Source: Company data, Samsung Securities estimates

- **Raising target valuation for HMC:** We raise our target price by 62.5% to KRW650,000, the average of target prices indicated by our P/E and P/B valuations.
  - ■**P/E:** We have increased our target P/E multiple from 8x to 18x—matching the average of leading Chinese EV companies—to reflect redefined asset value and the start of robotics sales at HMC.
  - ■**P/B:** To better capture earnings trends, we introduce a target P/B multiple of 0.93x, derived from the P/B vs ROE correlation coefficients of global automakers.
- **4Q25 preview:** We expect HMC to report 4Q sales of KRW48.4t (up 3.7% q-q and 3.9% y-y) and operating profit of KRW2.63t (up 3.8% q-q but down 6.7% y-y), for an operating margin of 5.4%. Although the US lowered its tariffs, the impact was limited to December. Duty offsets for auto parts imports (estimated at KRW250b) are now expected in 1Q26, pushed back because of the US government shutdown. (FnGuide consensus puts sales at KRW48.4t and operating profit at KRW2.7t).

Investing in bottlenecks is always right: Physical AI models are advanced by real-world action data. Action data for robots, in particular, are not just scarce—they are in a severe drought. HMC's and Kia's factories provide the action data required for robots to operate in manufacturing plants and serve as a training ground for the robots.

- **Self-driving cars—Tesla-Waymo performance gap rooted in real-world driving data:** The performance of physical AI models is largely determined by real-world data. Despite its profits declining for three consecutive years, Tesla has maintained a high enterprise valuation because it is the only company that can convert real-world driving action data into a digital language to enhance its AI. Thanks to Tesla's fleet data loop, FSD 14 performs significantly better than FSD 13. In contrast, Waymo's driving performance remained relatively unchanged between 2024 and 2025.
- **What happened after memory chips were identified as the AI bottleneck in 2H25:** In AI model inference, contextual data (KV cache) are held in memory. As agents consider more variables, the amount of contextual data that must be retained grows exponentially. This led to a surge in the stock prices of memory chipmakers such as Samsung Electronics and SK Hynix.

  Similarly, as real-world action data become increasingly recognized as the bottleneck for physical AI, the enterprise value of HMC and Kia should rise as well.

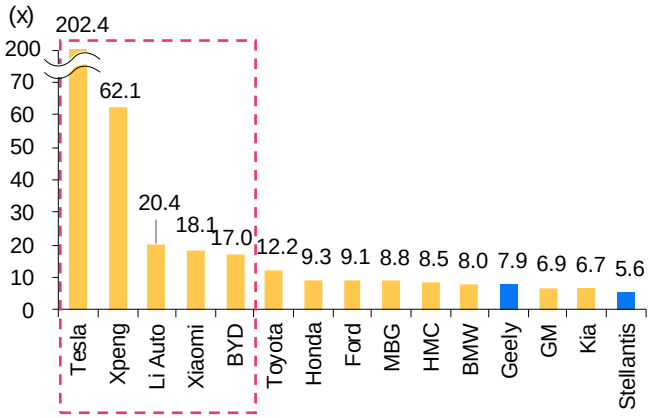
  Real-world action data include not only the cause and effect of actions but also the costs and responsibilities associated with failures. As these data accumulate, it becomes clearer what actions should not be taken. Robots begin to understand situations (context) on their own, and their behavior policies are shaped accordingly. As AI models develop tacit knowledge (hidden layers), they can also respond to rare, long-tail scenarios.
- **Why Google DeepMind and Nvidia chose Boston Dynamics as a partner:** Google owned Boston Dynamics from Dec 2013 to May 2017 before selling it to SoftBank. A decade later, Google and Boston Dynamics have re-established a technical collaboration. This partnership is driven by the fact that HMC/Kia's factories provide: 1) real-world action data; 2) sequencing data across different work environments; and 3) validation of models by operating robots in real factory and logistics settings. Most other robotics companies are startups, lacking both the means to accumulate large-scale action datasets and the manufacturing environments needed to validate their models.

- **HMC/Kia plants to serve as digital factories producing action data for robots:** Robot Metaplant Application Center (RMAC) provides a controlled environment where robots learn by mapping factory layout, movement paths, and work positions, which are then combined with real-world operational data from HMC/Kia's software-defined factory (SDF) facilities. The goal is to establish a closed-loop learning model [virtual training (RMAC) → real-world data (SDF) → retraining] that enables continuous improvement in speed, accuracy, and safety.
- **Google, Nvidia, and HMG form a three-way alliance:** First, Google DeepMind provides the MuJoCo simulation environment for testing robot action models, as well as the Gemini Robotics model, which is designed to function as a robot foundation model. Second, Nvidia offers Thor inference chips and Newton. Developed in collaboration with Google DeepMind, Newton is a baseline architecture of physics rules that ensures robots interpret physical phenomena they encounter in the real world consistently across different simulation environments and AI models. Third, HMG mass-produces robots, provides factory behavior data needed to refine models, and validates robot performance in actual factory settings.

HMG building full robot lineup for the robotics era: HMG's robotics strategy is centered on Boston Dynamics (general-purpose robots) and HMG Robotics Lab (wearable, service, and mobile robots).

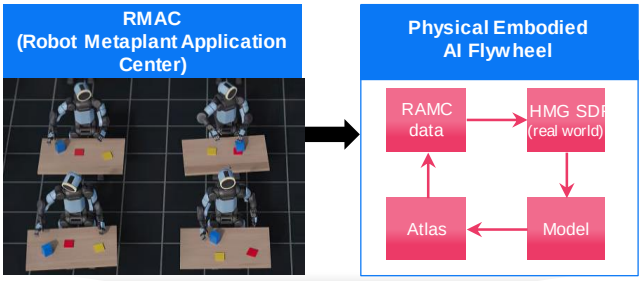
- **From wearable robots to humanoids:** Boston Dynamics (in which HMC has a 27% stake) has three robots in its lineup. HMG Robotics Lab (in which HMC has a 40% stake) is preparing a lineup of 14 robots, with plans to launch 1-2 new robots annually.
- **HMC to book robot sales from 2H26:** HMG Robotics Lab plans to begin production of its mobile robot 'MobED' in 1H26. It aims to sell 10,000-15,000 units over the next three years, which would bring in annual revenue of KRW150b-200b.
- **Humanoid robot roadmap:** Open RAMC in 2026 → Secure clients other than HMG in 2027 → Establish a 30,000-unit factory → Deploy humanoid robots in logistics lines at Hyundai Motor Group Metaplant America (HMGMA) in 2028 → Deploy humanoid robots in assembly lines at HMGMA in 2030.

Global automakers: 12-month forward P/E valuation



Source: Bloomberg, Samsung Securities

HMC: Physical Embodied AI Flywheel



The process of **data → model training → robot application → real-world operation → new data generation** repeats continuously, allowing for the ongoing accumulation of high-quality datasets and enabling continuous improvement in model performance.

Robotics companies: Level of in-house technology stack integration

	Company	World model/ Foundation model	Vision/ Action model	Inference chip	Body design	Mass-production	Notes
Full stack	Tesla	In-house (FSD)	In-house (FSD)	In-house (AI5)	In-house	2H26	
	Xpeng	In-house	In-house	In-house (Turing AI)	In-house	End-2026	
Model-based full stack	Figure AI	In-house	In-house	Nvidia Thor	In-house	2026	Foundation model independent from OpenAI
	Robotics Lab	In-house	In-house	DeepX	In-house	1H26	Based on mobile robot 'MobED'
	Agibot	In-house	In-house	Nvidia Thor	In-house	2024	Cumulative production of 5,000 units
Big Tech collaboration	Boston Dynamics	Collaboration with Google DeepMind	In-house	Nvidia Thor	In-house	2028	Actuator standardization, collaboration with Hyundai Mobis
	Agility	Collaboration with Nvidia	In-house	Nvidia Thor	In-house	2026	5th generation by end-2026
	Aptroniks	Collaboration with Google DeepMind	In-house	Nvidia Thor	In-house	202	
	1X	Collaboration with Nvidia	In-house	Nvidia Thor	In-house	2026	Subscription model launched in April
	Unitree	Collaboration with Nvidia	In-house	Nvidia Thor	In-house	2025	500 units produced in 2025

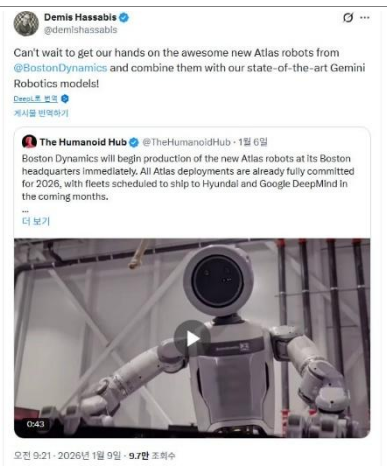
Source: Company data, Samsung Securities

Digital data vs. Physical world data

Aspect	Digital data	Physical world data
Replication cost	Almost zero	Very high
Failure cost	None	Accidents, damage
Temporality	Independent samples possible	Time-series dependent
Governing laws	Statistical	Constrained by physical laws
Distribution	Static	Varies with environment

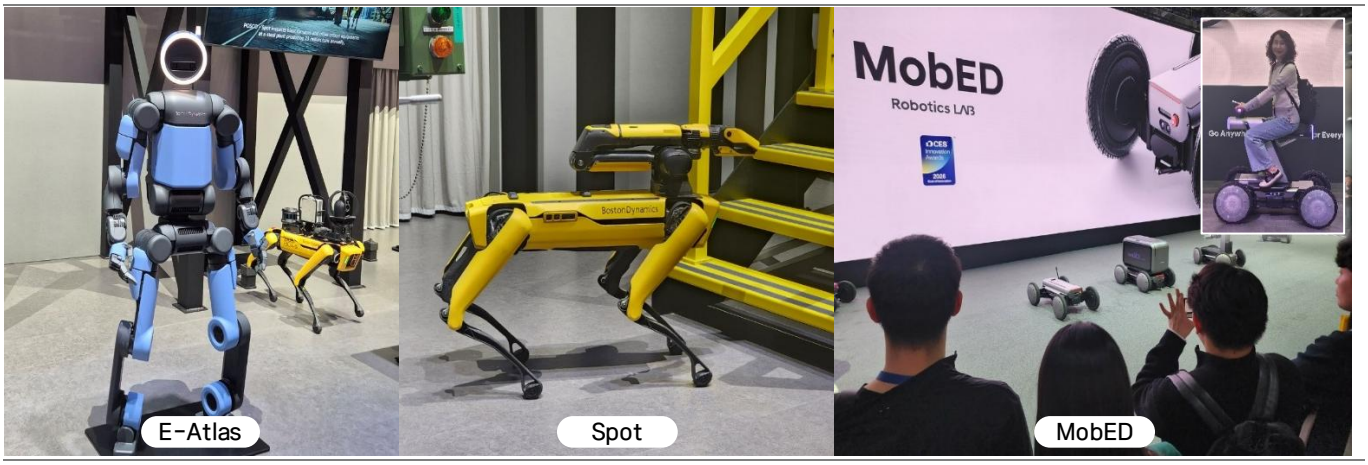
Source: Samsung Securities

Google DeepMind CEO Demis Hassabis: Comment



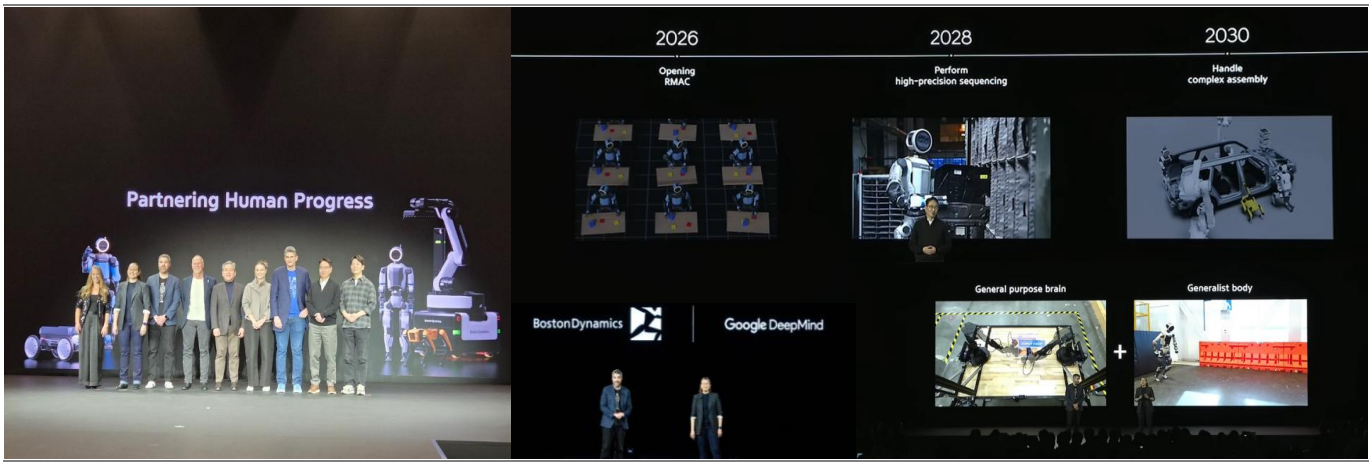
Source: X

Boston Dynamics: E-Atlas and Spot / Robotics Lab: MobED



Source: Company data, Samsung Securities

HMC media day: Boston Dynamics-Google DeepMind collaboration and RMAC* establishment announcement



Note: *Robot Metaplant Application Center
Source: Company data, Samsung Securities

HMC: Global sales volumes and forecasts

('000 vehicles)	1Q25	2Q25	3Q25	4Q25E	1Q26E	2Q26E	3Q26E	4Q26E	2024	2025E	2026E	2027E
Global plant sales	1,006	1,063	1,022	1,019	1,014	1,065	1,037	1,068	4,174	4,109	4,184	4,349
Domestic	445	483	458	452	447	487	446	470	1,871	1,838	1,850	1,850
Overseas	561	580	563	567	567	577	591	598	2,303	2,271	2,334	2,499
India (HMI)	192	180	191	193	203	199	213	205	764	756	820	850
China (BHMC)	44	50	47	53	51	52	45	52	170	194	200	210
US (HMMA)	98	112	108	107	108	116	112	114	361	424	450	500
Turkey (HAOS)	62	59	39	38	59	54	46	51	246	198	210	210
Czech (HMMC)	73	74	67	63	84	86	75	76	327	277	320	330
Russia (HMMR)	0	0	0	0	0	0	0	0	0	0	40	100
Brazil (HMMB)	41	55	54	62	40	49	55	60	214	213	205	205
Global retail sales	**1,001**	**1,066**	**1,038**	**1,033**	**1,052**	**1,097**	**1,075**	**996**	**4,142**	**4,138**	**4,220**	**4,345**
Global ASP (KRWm)	**35.7**	**35.8**	**36.5**	**37.2**	**37.8**	**38.6**	**38.6**	**39.0**	**34.1**	**36.3**	**38.5**	**38.4**

Source: Company data, Samsung Securities

HMC: Results and forecasts

(KRWb)	1Q25	2Q25	3Q25	4Q25E	1Q26E	2Q26E	3Q26E	4Q26E	2024	2025E	2026E	2027E
KRW/USD (avg)	1,453	1,400	1,387	1,452	1,430	1,420	1,400	1,400	1,365	1,422	1,413	1,370
Revenue	44,408	48,287	46,721	48,430	48,969	53,325	51,318	50,154	175,231	187,846	203,766	211,786
Autos	34,718	37,030	36,715	37,026	38,425	41,091	40,452	37,205	136,725	145,489	157,173	161,465
Finance	7,398	8,269	7,189	8,435	8,138	9,096	7,908	9,279	28,447	31,291	34,420	37,174
Other	2,292	2,988	2,817	2,969	2,407	3,137	2,958	3,671	10,060	11,066	12,173	13,146
Gross profit	8,980	9,110	8,284	8,664	8,765	9,659	9,414	8,807	35,749	35,144	36,644	38,484
Operating profit	3,634	3,602	2,537	2,633	3,196	3,792	3,620	3,101	14,240	12,512	13,709	14,541
Pre-tax profit	4,465	4,385	3,326	3,561	4,315	4,879	4,310	3,878	17,781	15,737	17,382	18,554
Net profit	3,382	3,250	2,548	2,671	3,237	3,659	3,233	2,908	13,230	11,931	13,037	13,915
Controlling profit	3,157	2,998	2,261	2,537	3,139	3,549	3,136	2,821	12,527	11,030	12,646	13,498
Margins (%)												
Gross profit	20.2	18.9	17.7	17.9	17.9	18.1	18.3	17.6	20.4	18.7	18.0	18.2
Operating profit	8.2	7.5	5.4	5.4	6.5	7.1	7.1	6.2	8.1	6.7	6.7	6.9
Net profit	7.6	6.7	5.5	5.5	6.6	6.9	6.3	5.8	7.5	6.4	6.4	6.6
Controlling profit	7.1	6.2	4.8	5.2	6.4	6.7	6.1	5.6	7.1	5.8	6.2	6.4

Source: Company data, Samsung Securities

Income statement

Year-end Dec 31 (KRWb)	2023	2024	2025E	2026E	2027E
Sales	**162,664**	**175,231**	**187,846**	**203,766**	**211,786**
Cost of goods sold	129,179	139,482	152,809	167,122	173,301
Gross profit	**33,484**	**35,749**	**35,037**	**36,644**	**38,484**
Gross margin (%)	20.6	20.4	18.7	18.0	18.2
SG&A expenses	18,357	21,510	22,632	22,935	23,943
Operating profit	**15,127**	**14,240**	**12,406**	**13,709**	**14,541**
Operating margin (%)	9.3	8.1	6.6	6.7	6.9
Non-operating gains (losses)	**1,750**	**3,251**	**3,331**	**3,673**	**4,013**
Financial profit	1,560	1,531	877	645	627
Financial costs	971	899	512	528	543
Equity-method gains (losses)	2,471	3,114	2,904	3,188	3,408
Other	-1,309	-496	62	369	520
Pre-tax profit	**16,877**	**17,490**	**15,737**	**17,382**	**18,554**
Taxes	4,627	4,232	3,885	4,346	4,638
Effective tax rate (%)	27.4	24.2	24.7	25.0	25.0
Profit from continuing operations	12,992	13,549	11,851	13,037	13,915
Profit from discontinued operations	-720	-319	0	0	0
Net profit	**12,272**	**13,230**	**11,851**	**13,037**	**13,915**
Net margin (%)	7.5	7.5	6.3	6.4	6.6
Net profit (controlling interests)	11,962	12,527	10,954	12,646	13,498
Net profit (non-controlling interests)	311	703	897	391	417
EBITDA	20,073	18,527	17,149	18,607	19,574
EBITDA margin (%)	12.3	10.6	9.1	9.1	9.2
EPS (parent-based) (KRW)	43,589	46,042	40,971	47,649	50,861
EPS (consolidated) (KRW)	44,721	48,626	44,328	49,123	52,434
Adjusted EPS (KRW)*	43,589	46,042	40,971	47,649	50,861

Balance sheet

Year-end Dec 31 (KRWb)	2023	2024	2025E	2026E	2027E
Current assets	**58,604**	**64,336**	**54,143**	**56,147**	**57,753**
Cash & equivalents	19,167	19,015	4,957	3,029	2,655
Accounts receivable	4,682	5,908	6,333	6,870	7,141
Inventories	17,400	19,791	21,770	23,615	24,545
Other current assets	17,355	19,622	21,083	22,632	23,412
Fixed assets	**116,172**	**147,622**	**165,055**	**177,720**	**189,757**
Investment assets	33,054	41,392	49,389	54,254	59,056
Tangible assets	38,921	44,534	48,692	50,707	51,597
Intangible assets	6,219	7,683	7,781	7,868	7,945
Other long-term assets	37,978	54,014	59,193	64,891	71,158
Total assets	**282,463**	**339,798**	**359,822**	**381,523**	**402,548**
Current liabilities	**73,362**	**79,510**	**82,768**	**88,205**	**92,621**
Accounts payable	10,952	12,550	13,453	14,593	15,168
Short-term debt	9,036	9,327	8,827	8,827	8,827
Other current liabilities	53,375	57,633	60,487	64,784	68,627
Long-term liabilities	**107,292**	**140,013**	**148,349**	**154,731**	**160,841**
Bonds & long-term debt	90,603	120,420	126,420	130,420	134,420
Other long-term liabilities	16,689	19,593	21,929	24,311	26,421
Total liabilities	**180,654**	**219,522**	**231,117**	**242,935**	**253,463**
Owners of parent equity	**92,497**	**109,103**	**116,635**	**126,126**	**136,207**
Capital stock	1,489	1,489	1,489	1,489	1,489
Capital surplus	4,378	7,656	7,656	7,656	7,656
Retained earnings	88,666	96,596	104,013	113,504	123,585
Other	-2,036	3,362	3,477	3,477	3,477
Non-controlling interests' equity	**9,312**	**11,173**	**12,070**	**12,461**	**12,878**
Total equity	**101,809**	**120,276**	**128,705**	**138,587**	**149,085**
Net debt	99,174	130,142	149,103	154,747	159,226

Cash flow statement

Year-end Dec 31 (KRWb)	2023	2024	2025E	2026E	2027E
Cash flow from operations	**-2,519**	**-5,662**	**16,517**	**18,918**	**19,982**
Net profit	12,272	13,230	11,851	13,037	13,915
Non-cash profit and expenses	21,192	23,950	4,471	5,050	5,290
Depreciation	3,284	3,398	3,842	3,985	4,110
Amortization	1,663	889	902	913	923
Other	16,246	19,663	-273	153	257
Changes in A/L from operating activities	-30,365	-35,160	2,826	4,172	4,442
Cash flow from investments	**-8,649**	**-14,623**	**-28,439**	**-20,736**	**-20,145**
Change in tangible assets	-6,926	-7,890	-8,000	-6,000	-5,000
Change in financial assets	-1,131	-1,842	-1,476	-1,008	-495
Other	-592	-4,891	-18,964	-13,729	-14,650
Cash flow from financing	**9,393**	**19,493**	**2,260**	**1,394**	**1,107**
Change in debt	12,527	32,090	5,796	4,549	4,525
Change in equity	137	3,278	0	0	0
Dividends	-2,499	-3,913	-3,536	-3,155	-3,417
Other	-772	-11,961	0	-0	0
Change in cash	-1,698	-152	-14,058	-1,927	-374
Cash at beginning of year	20,865	19,167	19,015	4,957	3,029
Cash at end of year	19,167	19,015	4,957	3,029	2,655
Gross cash flow	**33,465**	**37,180**	**16,322**	**18,087**	**19,205**
Free cash flow	**-9,590**	**-13,723**	**8,517**	**12,918**	**14,982**

Financial ratios

Year-end Dec 31	2023	2024	2025E	2026E	2027E
Growth (%)					
Sales	14.4	7.7	7.2	8.5	3.9
Operating profit	54.0	-5.9	-12.9	10.5	6.1
Net profit	53.7	7.8	-10.4	10.0	6.7
Adjusted EPS**	63.9	5.6	-11.0	16.3	6.7
Per-share data (KRW)					
EPS (parent-based)	43,589	46,042	40,971	47,649	50,861
EPS (consolidated)	44,721	48,626	44,328	49,123	52,434
Adjusted EPS**	43,589	46,042	40,971	47,649	50,861
BVPS	351,861	413,568	444,068	480,203	518,582
DPS (common)	11,400	12,000	12,000	13,000	13,500
Valuations (x)					
P/E***	4.7	4.6	7.2	10.1	9.4
P/B***	0.6	0.5	0.7	1.0	0.9
EV/EBITDA	7.9	10.5	13.7	15.2	14.7
Ratios (%)					
ROE	13.7	12.4	9.7	10.4	10.3
ROA	4.6	4.3	3.4	3.5	3.5
ROIC	15.0	12.3	8.9	9.2	9.3
Payout ratio	19.4	19.5	22.3	20.9	20.3
Dividend yield (common)	5.6	5.7	4.0	2.7	2.8
Net debt to equity	97.4	108.2	115.8	111.7	106.8
Interest coverage (x)	27.1	31.5	24.2	26.0	26.8

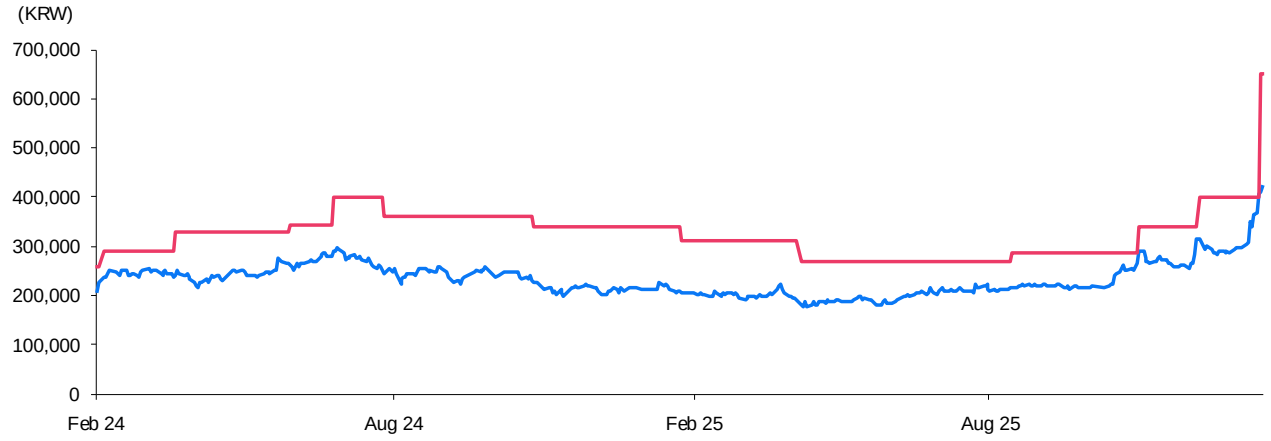
Note: *Excluding one-off items;
**Fully diluted, excluding one-off items;
***From companies subject to equity-method valuation

Source: Company data, Samsung Securities estimates

Compliance notice

- As of 1/19 2026, the covering analyst(s) did not own any shares, or debt instruments convertible into shares, of any company covered in this report.
- As of 1/19 2026, 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	2023/10/26	2024/2/5	3/20	5/29	6/25	7/26	10/25	2025/1/24	4/7	8/14	10/31	12/8
Recommendation	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY	BUY
Target price (KRW)	260000	290000	330000	345000	400000	360000	340000	310000	270000	285000	340000	400000
Gap* (average)	-28.49	-15.25	-26.19	-21.52	-31.63	-32.30	-37.27	-34.90	-26.06	-20.49	-20.69	-22.55
(max or min)**	-12.69	-11.90	-16.06	-16.96	-25.50	-28.06	-33.38	-28.39	-17.41	-7.02	-7.35	1.50

Date	2026/1/14
Recommendation	BUY
Target price (KRW)	650000
Gap* (average)	
(max or min)**	

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 2025.12.31

BUY(85.8%)·HOLD(14.2%)·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.

Copyright © 2010 Samsung Securities Co., Ltd.. All rights reserved. This report or any portion hereof may not be reprinted, sold or redistributed without the prior written consent of Samsung Securities America Inc

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

Member of
Dow Jones
Sustainability Indices
Powered by the S&P Global CSA