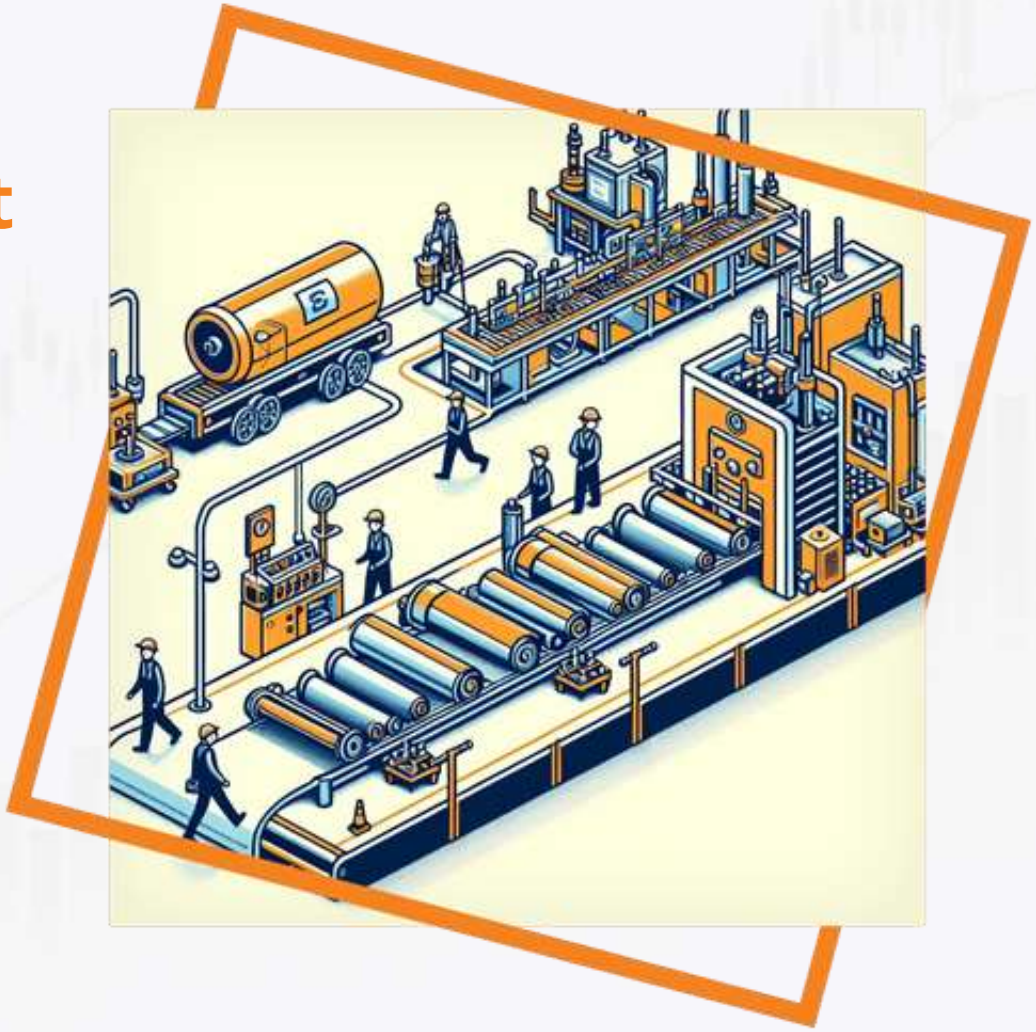
MIRAE ASSET Securities

[2H24 Outlook]

Battery Equipment
(Overweight)

Leading the battery sector recovery



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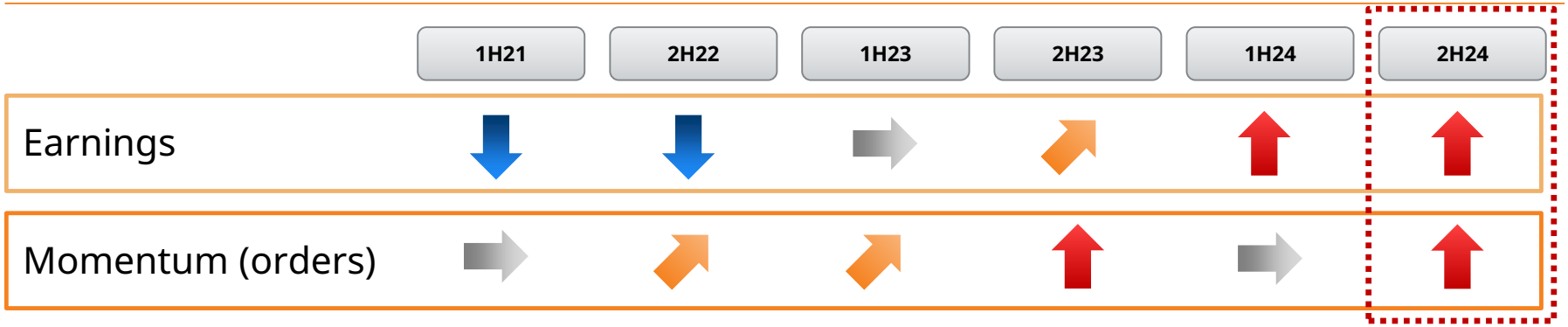
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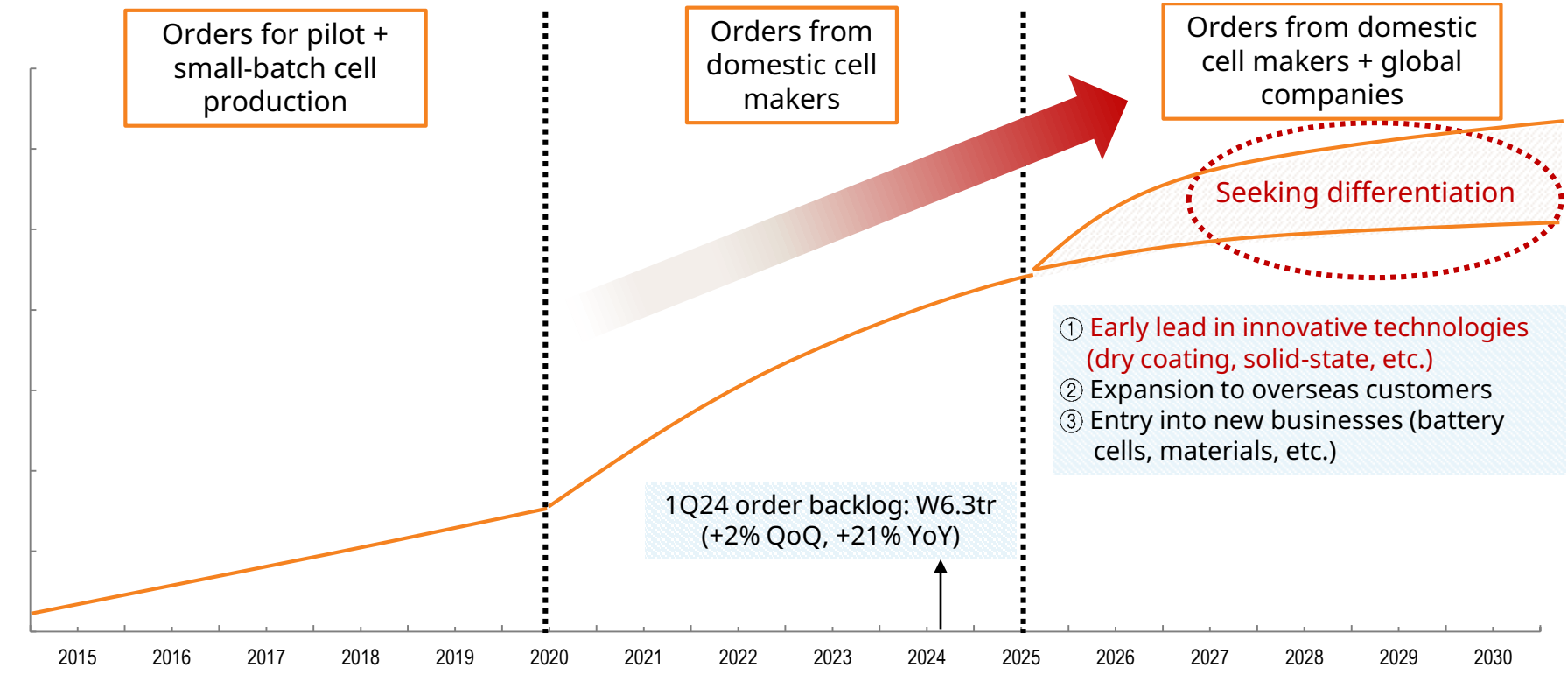
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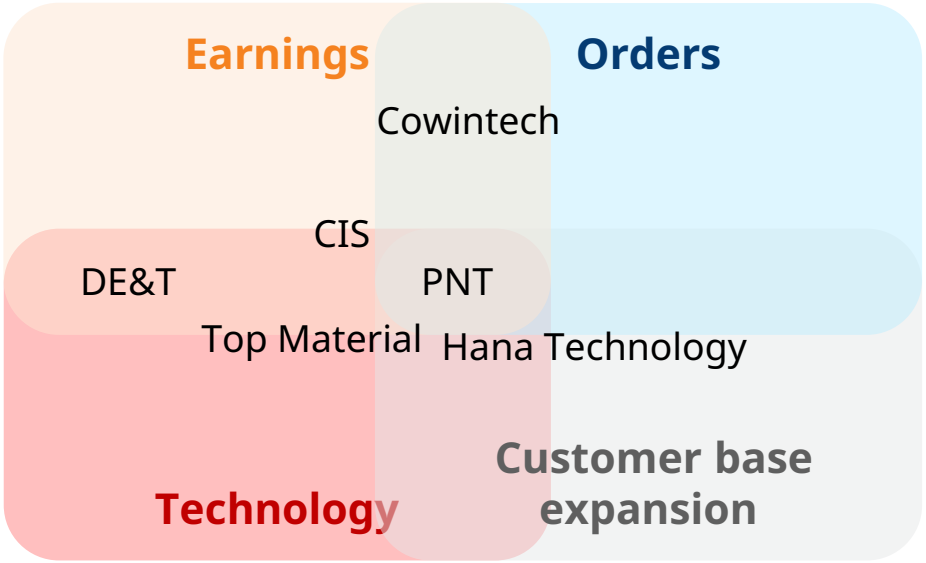
Company analysis 19
People & Technology (137400 KQ)
CIS (222080 KQ)

[Summary] Focus on leaders in next-generation technologies





[Summary] Top pick: People & Technology (PNT)



Rank	Orders	Earnings	Technology	Customer base
1	PNT	SFA	Coating	PNT
2	CIS	PNT	Rolling	SFA
3	SFA	CIS	Winding	Cowintech
4	Wonik PNE	A-Pro	Mixing	Hana Tech
5	TSI	mPLUS	Notching	CIS
6	Cowintech	TSI	Stacking	mPLUS
7	Hana Tech	NSYS	Inspection	Innometry
8	mPLUS	DE&T	Tab welding	Youil
9	Philoptics	Daebo	Packaging	TSI
10	A-Pro	Innometry	Formation	Wonik PNE

[PNT] Top pick

① First Korean firm to win dry coating equipment orders
② Securing top-tier global customers
③ Undervalued vs. global peers based on 2024F P/E
④ LFP active materials production (6,000 tonnes) and LFP mass production (200MWh) to start in 2025

[CIS] Stock to watch

① Qualification testing underway for hybrid coaters
② Orders from major domestic companies likely in 2H24
③ B-sample qualification testing underway for solid-state production equipment/materials
④ 2H24F new orders: W900bn

I. Securing an early lead in next-gen technologies is key

Pursuing game-changing technologies

- PNT is believed to have become the first Korean company to win orders for dry coating equipment (a potential game-changer).
- Chinese firms are not yet posing a competitive threat in the electrode fabrication process, which poses high technological barriers to entry (technological difficulty: electrode fabrication > assembly > formation).
- However, in the formation segment, price competition from Chinese rivals has eroded margins, prompting domestic companies to push into assembly (causing competition in this segment to intensify as well).

Battery processes: High technological barriers to entry support high margins

Process	Steps	Current status	Future direction	Entry barriers	Margins
Electrode fabrication	Mixing	4,000L and cathode materials mixers	Continuous mixers, dry mixers	High	High
	Coating	Wet process (thickness 6um, width 1,400mm, production speed 100m/min)	Dry coaters	High	High
	Rolling	Thickness control: 1.3um, 100m/min	Thickness control: 1.3μm or below, ppm improvement	High	High
	Slitting	Burrs: 7μm, 100m/min	Burr problems to be minimized; ppm improvement, laser slitting	Moderate	Moderate
Assembly	Notching	Laser notching, 1,000mm/s, non-coated surface	Laser notching, coated surface	High	High
	Stacking	0.5-0.6s/sheet In-line press notching & stacking	0.4-0.45 s/sheet In-line laser notching & stacking	Moderate	Moderate
	Tab welding/ packaging	12-15ppm	ppm improvement, bulk minimization	Low	Low
Formation	Formation	High-temperature/pressure formation	Power switch/software development	Low	Low
	X-ray inspection	2D X-ray equipment	In-line 3D CT non-destructive equipment	Moderate	Moderate
Automation	Automated logistics system	80% automated	Smart factory: 100% automated	Moderate	Moderate

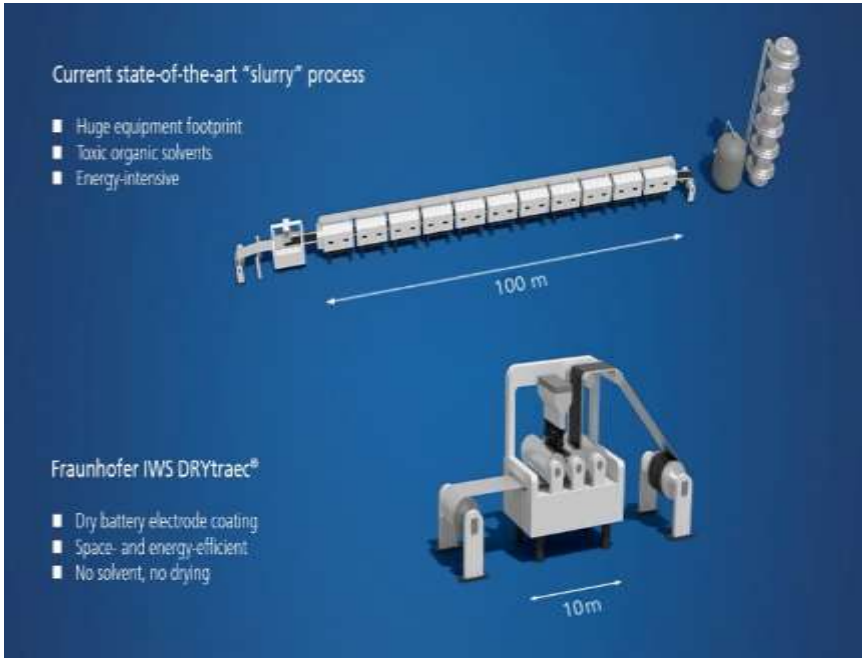
Source: Mirae Asset Securities Research

II. Advances in coating technology: Wet → hybrid → dry

Coater length (based on large-sized cells): 100m+ for wet (drying chamber included), 50m for hybrid, 10m for dry

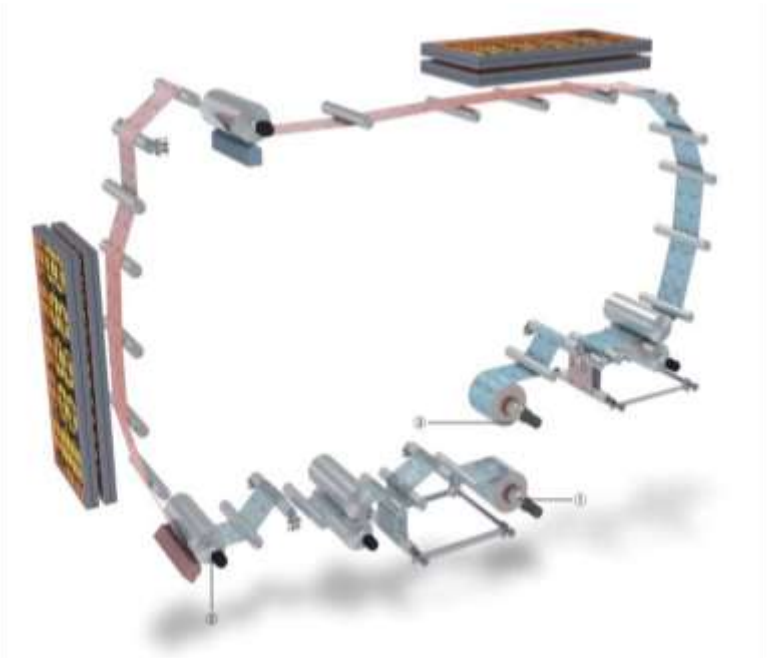
- Major domestic electrode fabrication companies are developing and taking orders for hybrid and dry coaters.
- Dry coating equipment is initially being applied to anode materials production. Cathode materials production will likely transition to dry coaters gradually after first using hybrid coaters.
- Hybrid coaters are likely to help optimize space utilization (as laser drying enables a significant reduction in the length of the drying chamber) and reduce energy consumption (by minimizing the use of thermal energy).
- Dry coaters eliminate the need for a drying chamber, enabling sharp improvements in space/energy efficiency.
- Dry coaters can also be applied across all battery cell types (including LFP, NCM, and solid-state).

Roll-to-roll (R2R) coating: Most pragmatic method for dry coating



Source: Fraunhofer, Mirae Asset Securities Research

Coating process



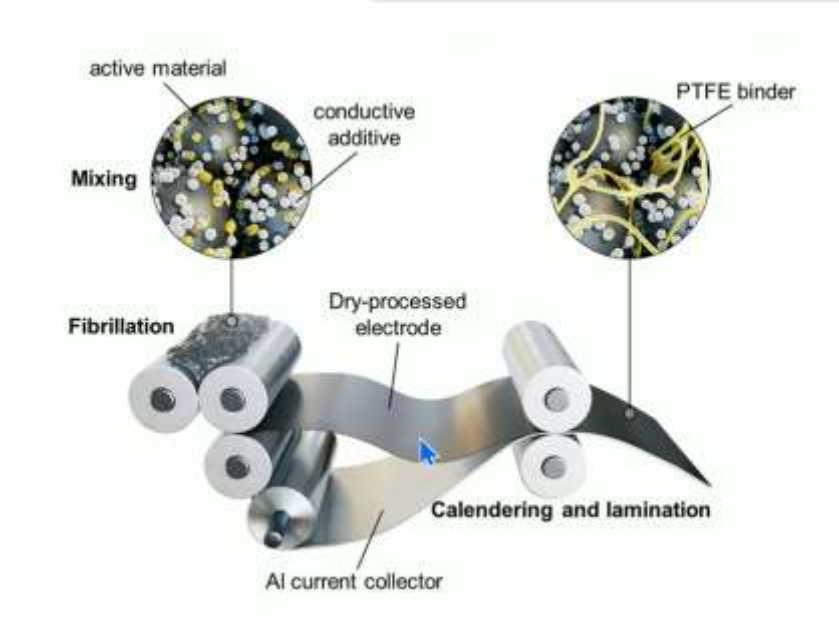
Source: Mirae Asset Securities Research

II. Domestic companies plan to adopt dry coating

Domestic companies aim to adopt dry coating by 2026

- Tesla is believed to be using dry coating equipment in its anode materials production process.
- Domestic cell makers are aiming to develop dry coating processes by 2026. However, the dry coating method presents significant challenges, forcing cell makers to consider costs, feasibility of mass production, etc.
- Dry coater adoption will likely start with anode materials and then gradually extend to cathode materials.
- With dry coating equipment likely to replace wet coating equipment over the long term, we advise paying attention to companies that have secured an early lead in the technology.

R2R coating: Most pragmatic method for dry process



Source:: Mirae Asset Securities Research

Dry coating equipment improves energy density



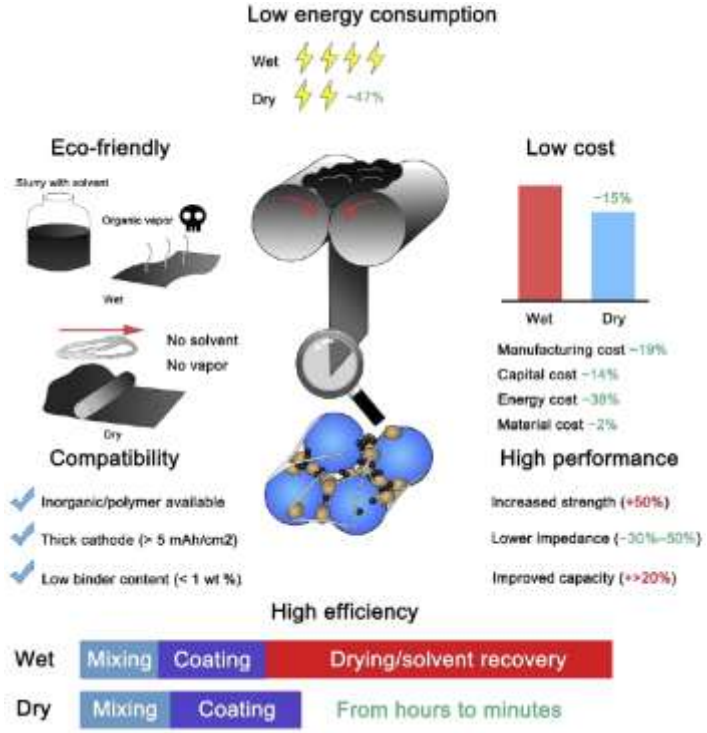
Source: Mirae Asset Securities Research

II. Domestic companies plan to adopt dry coating

Dry process likely to replace wet process due to various advantages

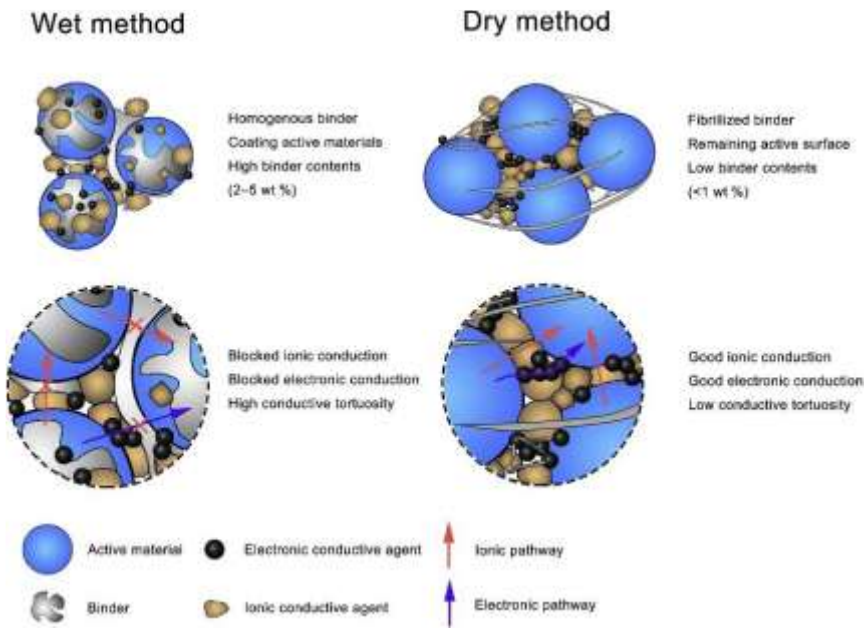
- Dry coating is an innovative process that can help cell makers reduce production costs. Its advantages include:
  ① Less environmental impact: Avoids generation of toxic substances associated with solvent-based processes
  ② Energy savings: Reduces energy consumption by 47% compared to wet coating
  ③ Cost savings: Lowers production costs (-17%), coater costs (-14%), electricity costs (-38%), and material costs (-2%)
  ④ High compatibility: Cathode material thickness can be increased (＞5mAh/cm^2), and binder content can be reduced (＜1wt%), improving energy density
  ⑤ High performance: Increases durability by 50% and capacity by 20%; reduces impedance 30-50%

Advantages of dry coating equipment



Source: Mirae Asset Securities Research

Dry coating: Lower binder content + higher ionic conductivity



Source: Mirae Asset Securities Research

II. Domestic companies plan to adopt dry coating

Efforts underway to secure lead in next-generation processes

- PNT is believed to have tested its dry coating equipment with two to three domestic companies (in addition to a major overseas customer).
- LG Energy Solution (LGES) has initiated pilot production using dry coating equipment (nearly at mass production scale), and Samsung SDI is considering applying both wet and dry processes to solid-state battery production.
- Tesla is believed to be using dry coating equipment at its anode materials production facility in Texas. The company plans to add four dry-process electrode fabrication lines. → Likely to place additional orders

Status of dry electrode process development by company

Company	Status	Phase
LGES	Completed lab-stage research; pilot production underway	Development
Samsung SDI	Wet/dry electrode processes for solid-state batteries under development	Development
	Participating in government-funded LFP battery projects	Development
PNT	Developed dry electrode equipment	Taking orders
CIS	Developing LFP battery coating equipment	Development
GI Tech	Manufacturing freestanding film and rolling equipment	Patent
Nain Tech	Developing laminating equipment	Development
Jeil M&S	Developing mixers for dry electrode process and solid-state batteries	Development
Yunsung F&C	Conducting government-funded research on dry process-use mixers	Development

Source: Press reports, Mirae Asset Securities Research

Tesla aiming to build 10-12 gigafactories (3,000GWh) by 2030

	Status
Road map	Targeting battery production capacity of 3,000GWh by 2030 (10-12 gigafactories, annual EV production capacity of 20mn units)
California (US)	Capacity to be expanded (current: 40GWh)
Shanghai (China)	Set to begin production with initial capacity of 40GWh
Berlin (Germany)	Capacity to be expanded from 50GWh to 100GWh
Texas (US)	Initial capacity: 15GWh Expansion underway (4 → 8 electrode lines; dry process to be used for new lines)
Nuevo Leon (Mexico)	Under construction
Exploring new factory locations in India, Indonesia, Korea, and France	TBD

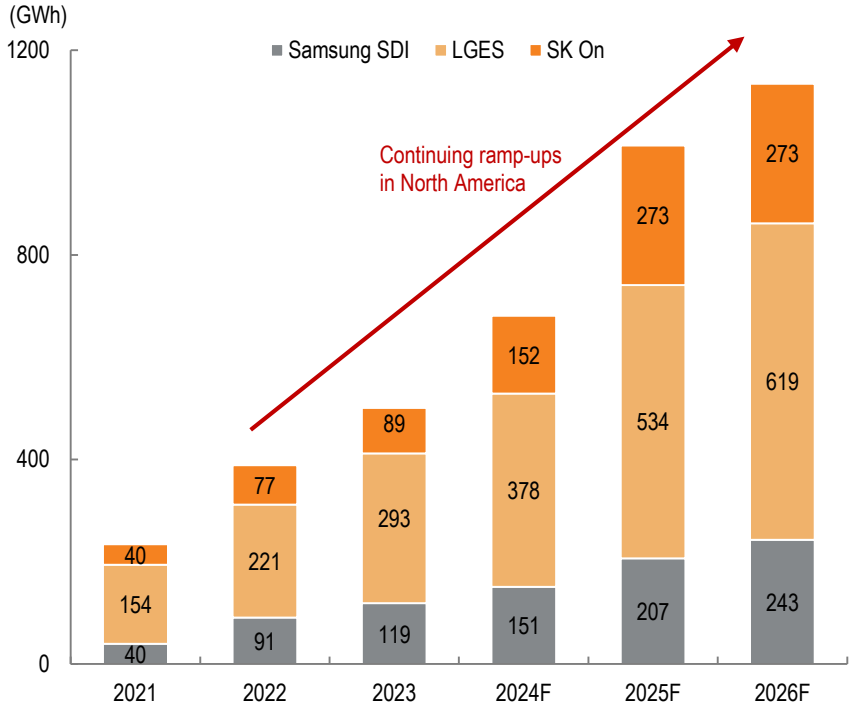
Source: Mirae Asset Securities Research

III. Top three Korean cell makers to resume ramp-ups in 2H24

Capacity expansion cycle to resume

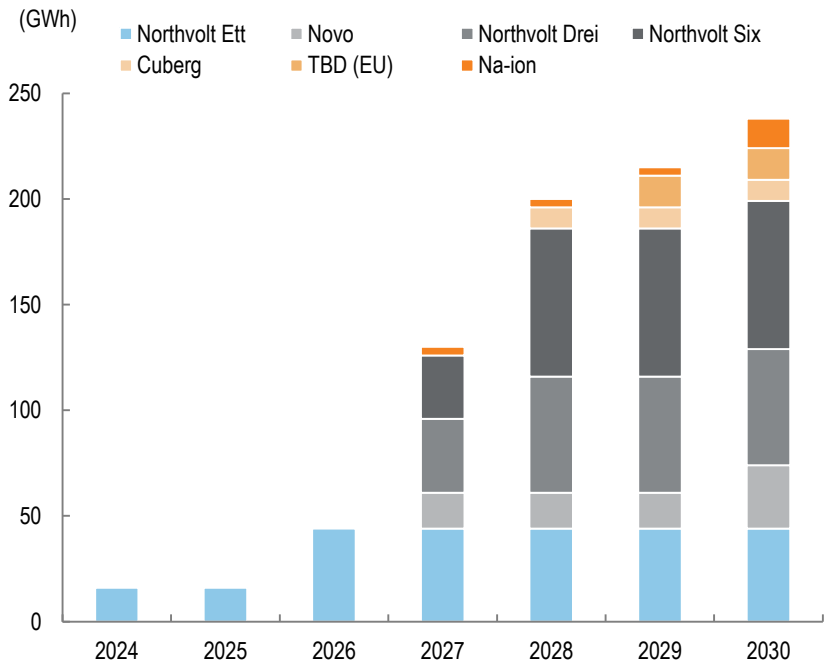
- Orders that had been anticipated in 1H24 were delayed, as cell makers prioritized utilization improvements over capacity expansion. However, we expect order momentum to recover in 2H24.
- In 2H24, we expect: 1) LGES to place orders for its Honda joint venture (45GWh), Arizona plant (53GWh), and Hyundai Motor joint venture (25GWh); and 2) Samsung SDI to place orders for its GM joint venture (30GWh).
- Orders from overseas cell makers should also pick up, given Northvolt's ambitious expansion plans (130GWh by 2027 and 200GWh by 2028) and ongoing mass production at European cell makers (ACC, Verkor, Morrow, etc.).

Korean cell makers: Production capacity forecasts



Source: Mirae Asset Securities Research

Northvolt: Production capacity forecasts



Source: Mirae Asset Securities Research

III. Top three Korean cell makers to resume ramp-ups in 2H24

New cell makers in Europe and North America also set to resume expansion

- Amid slowing EV adoption in 2H23-1H24, new cell makers in Europe and North America slowed down their expansion efforts. However, we expect some European companies to place equipment orders in 2H24, as expansion plans appear to be regaining momentum.
- Leveraging their global presence, Korean companies continue to attract orders from new cell makers.

Global cell makers' capacity expansion plans

Company	Expansion plans	Notes
ACC	13.4GWh (2024) → 120GWh (2030)	Aiming to increase capacity at plants in France, Italy, and Germany to 40GWh each by 2030; however, temporarily pausing work in Germany and Italy to focus on lower-cost batteries amid slowing EV demand in Europe; development road map to be confirmed in late 2024 or early 2025
Verkor	12GWh (2025) → 50GWh (2030)	Started construction on a 12GWh gigafactory in Dunkirk, France in Sep. 2023; secured EUR1.3bn through a green loan from 19 banks in May 2024
Morrow	Pilot line (MCF): 1GWh (2024) → 43GWh (2029)	Planning construction of three giga modules in Arendal, Norway (Eyde 1, 2, and 3; 14GWh each)
ONE	20GWh (2027)	Michigan plant in the US
Prime	2GWh (2024) → 8GWh (2026)	Signed an investment agreement with EIT InnoEnergy
Freyr	50GWh (2025) → 100GWh (2028) → 200GWh (2030)	Upgraded expansion plan in Jun. 2023

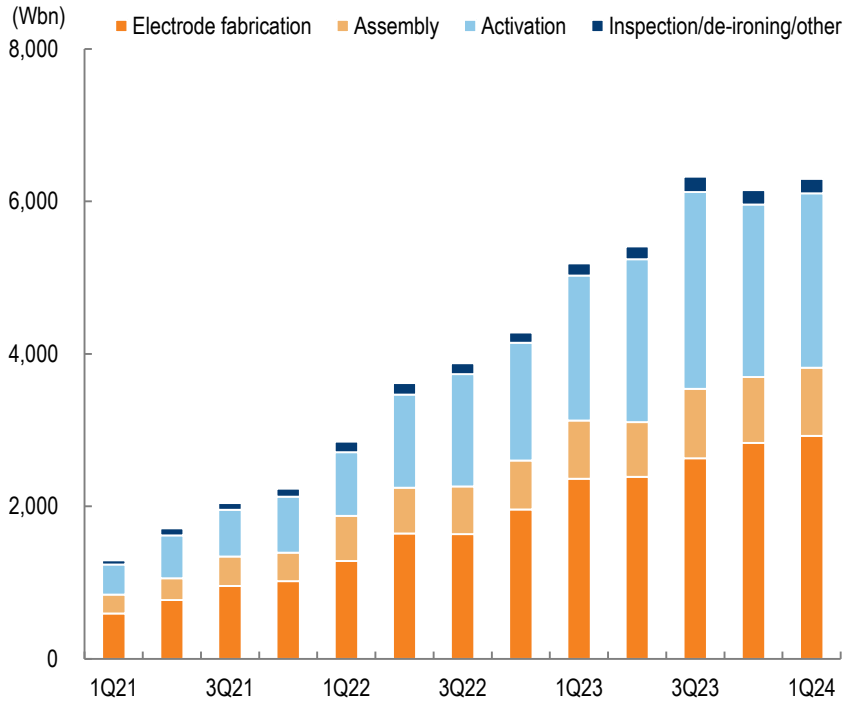
Source: Press reports, Mirae Asset Securities Research

IV. Battery equipment order backlog

Continued growth in electrode fabrication-related orders

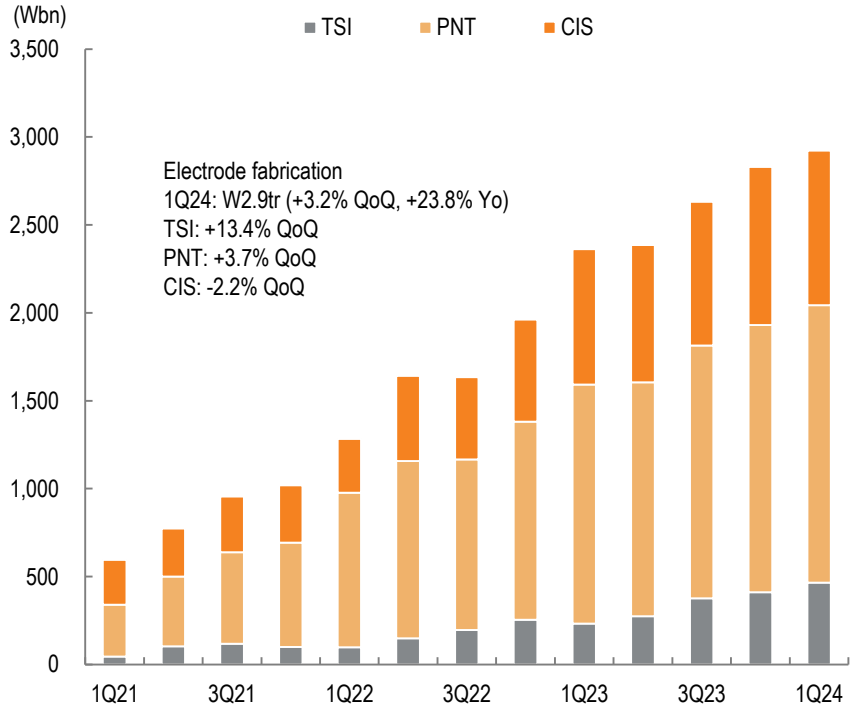
- In 1Q24, the total order backlog of top battery equipment makers increased 2.4% QoQ and 21.4% YoY. Electrode fabrication equipment suppliers maintained solid QoQ order growth.
- Electrode fabrication: +3.2% QoQ
- Assembly: +3.4% QoQ
- Formation/automation: +1.2% QoQ
- Inspection/de-ironing/other: -0.2% QoQ

Order backlog: Korea's top battery equipment makers



Source: Mirae Asset Securities Research

Order backlog: Electrode fabrication equipment suppliers

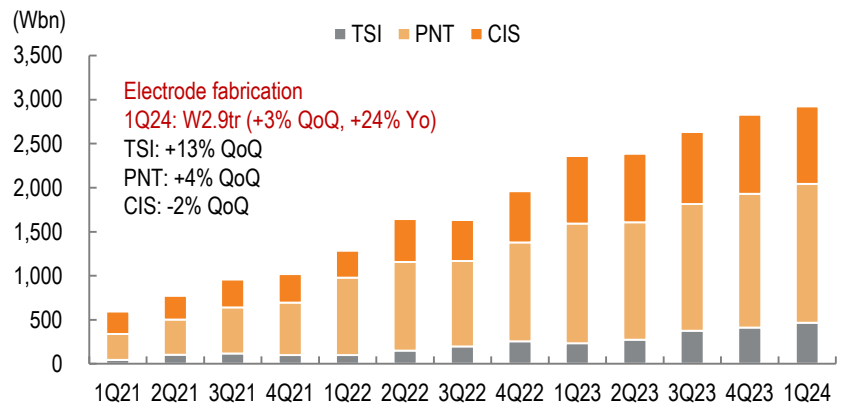


Source: Mirae Asset Securities Research

IV. Battery equipment order backlog

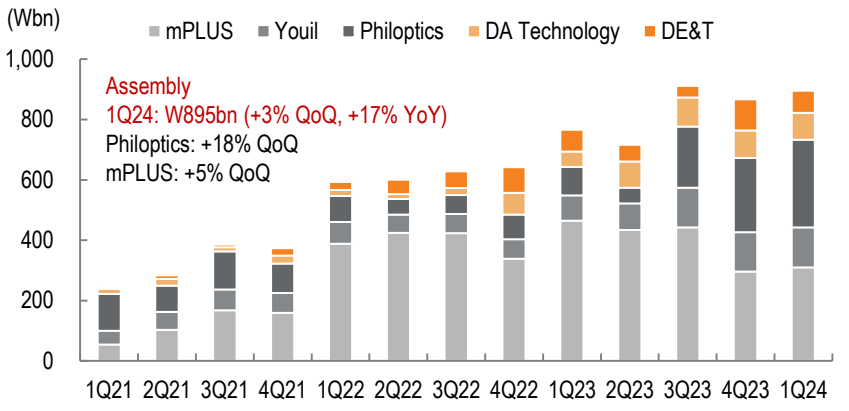
Order backlog trends by process

Electrode fabrication



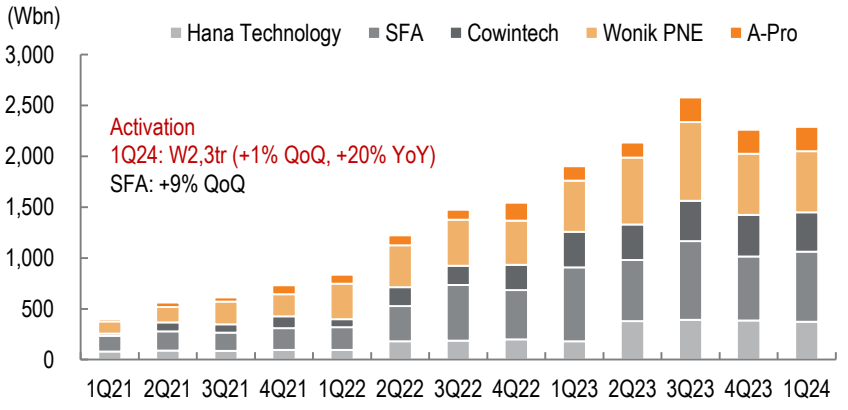
Source: Mirae Asset Securities Research

Assembly



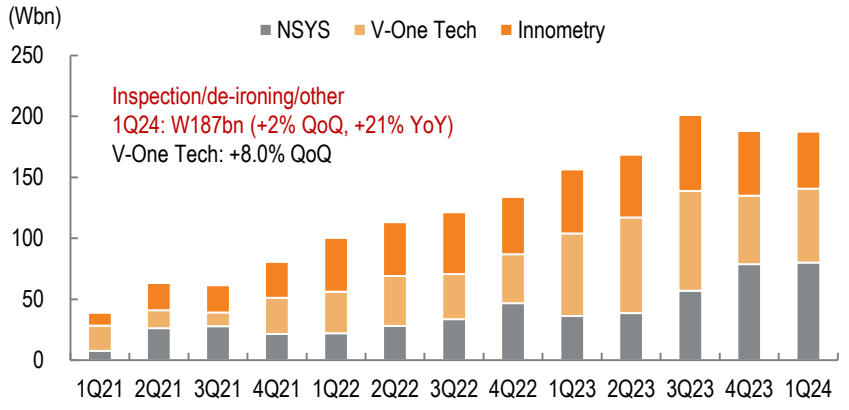
Source: Mirae Asset Securities Research

Formation/automation



Source: Mirae Asset Securities Research

Inspection/de-ironing/other

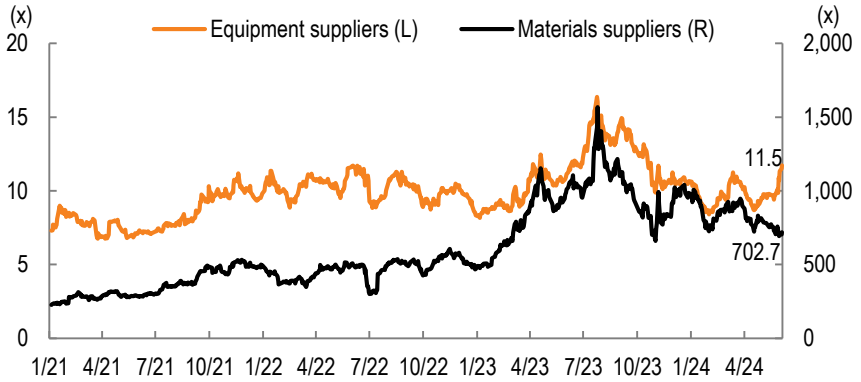


Source: Mirae Asset Securities Research

V. Equipment names stand out in battery value chain

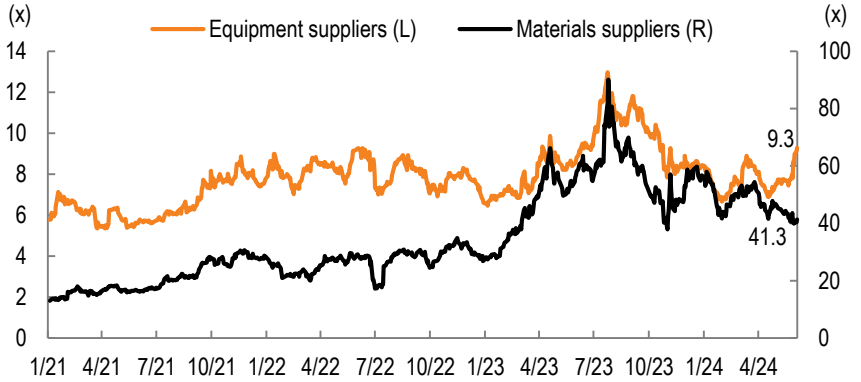
Valuation and earnings comparison: Equipment vs. materials companies

Equipment vs. materials companies: 2024F market cap relative to OP



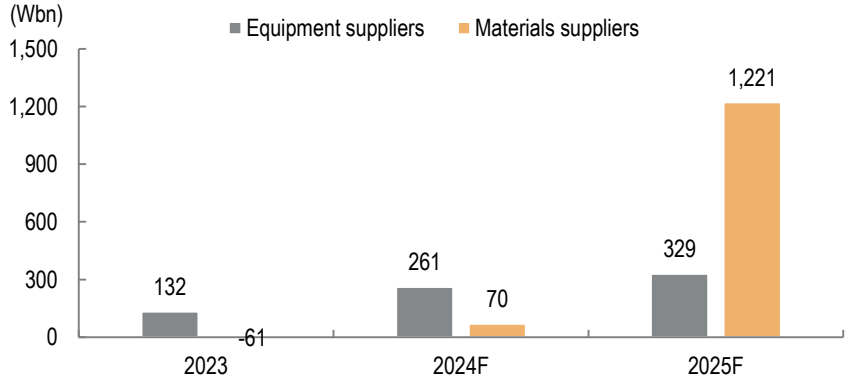
Notes: Equipment suppliers incl. TSI, PNT, CIS, mPLUS, Philoptics, and Wonik PNE; materials suppliers incl. L&F, EcoPro BM, Cosmo AM&T, POSCO Future M, and Chunbo
Source: Mirae Asset Securities Research

Equipment vs. materials companies: 2025F market cap relative to OP



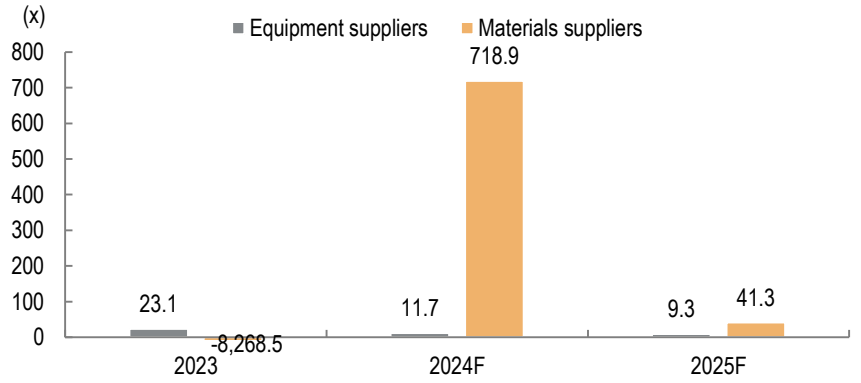
Notes: Equipment suppliers incl. TSI, PNT, CIS, mPLUS, Philoptics, and Wonik PNE; materials suppliers incl. L&F, EcoPro BM, Cosmo AM&T, POSCO Future M, and Chunbo
Source: Mirae Asset Securities Research

Equipment vs. materials companies: Annual OP



Notes: Equipment suppliers incl. TSI, PNT, CIS, mPLUS, Philoptics, and Wonik PNE; materials suppliers incl. L&F, EcoPro BM, Cosmo AM&T, POSCO Future M, and Chunbo
Source: Mirae Asset Securities Research

Equipment vs. materials companies: P/E valuation



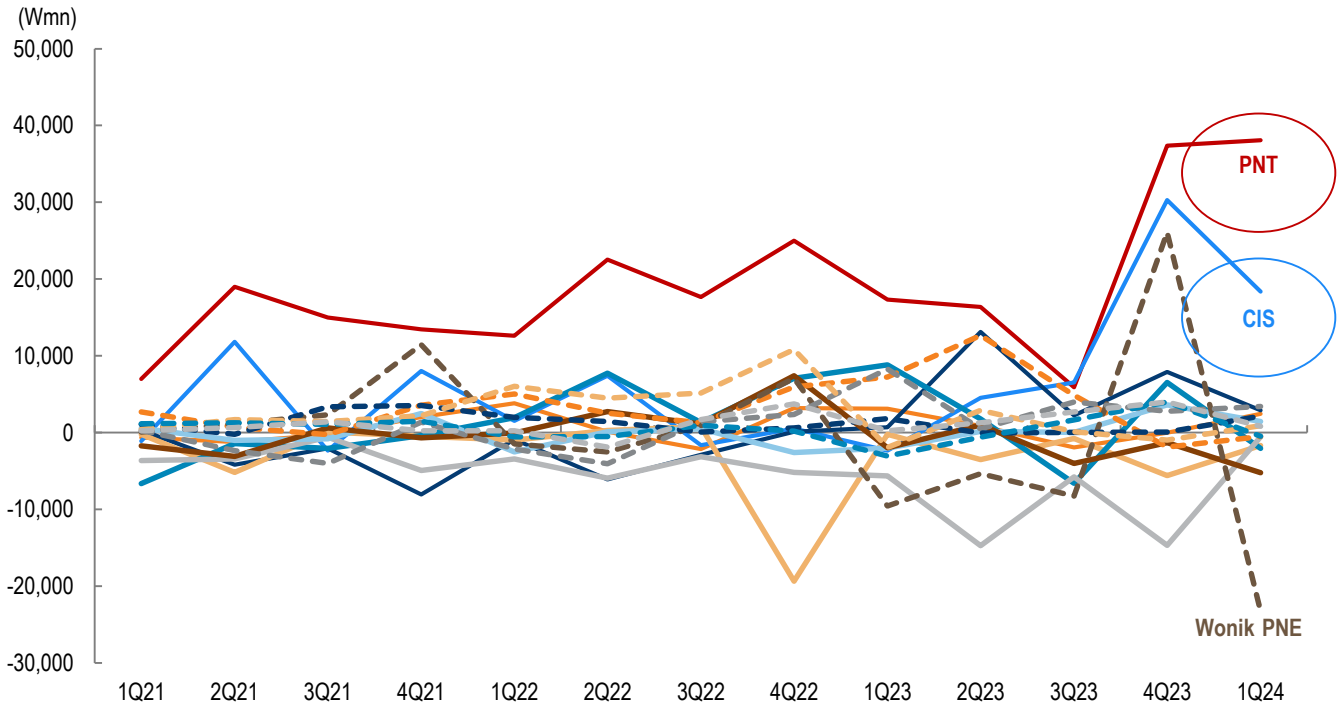
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Source: Mirae Asset Securities Research

V. Equipment names stand out in battery value chain

Electrode fabrication equipment suppliers to maintain robust OP margins

- For 1Q24, electrode fabrication equipment suppliers PNT and CIS posted above-consensus operating profits of W38.1bn (OP margin of 18.6%) and W18.3bn (OP margin of 19.4%), respectively.
- We expect companies with R2R technology to maintain strong margins.
- Meanwhile, companies in other segments mostly reported OP margins below 10%, suggesting that performances are diverging across processes.

Battery equipment firms' quarterly OP trends

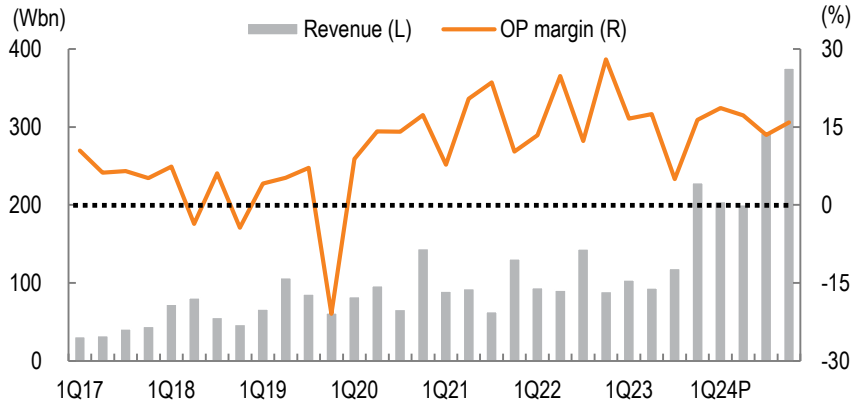


Source: Mirae Asset Securities Research

V. Equipment names stand out in battery value chain

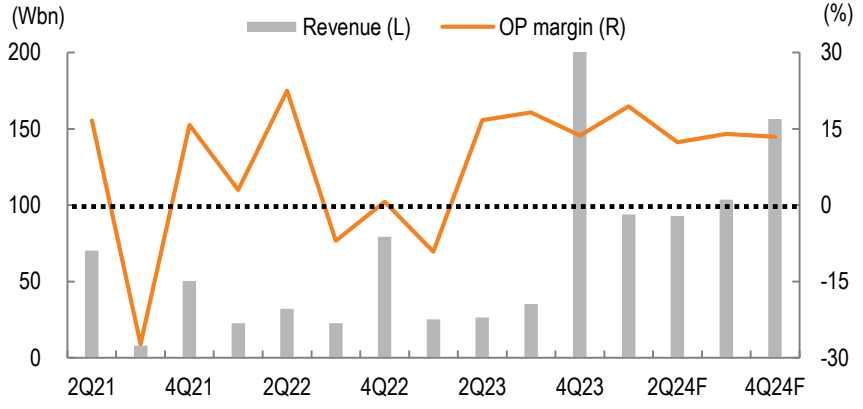
Electrode fabrication equipment suppliers seeing growth in both earnings and orders

PNT: Revenue and OP margin



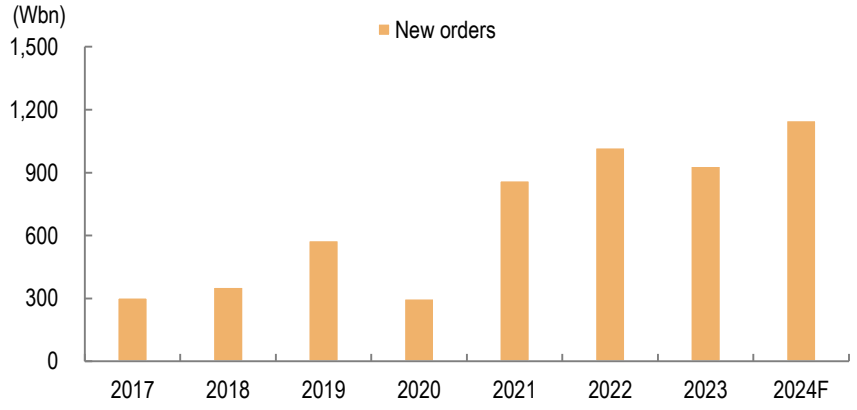
Source: PNT, Mirae Asset Securities Research

CIS: Revenue and OP margin



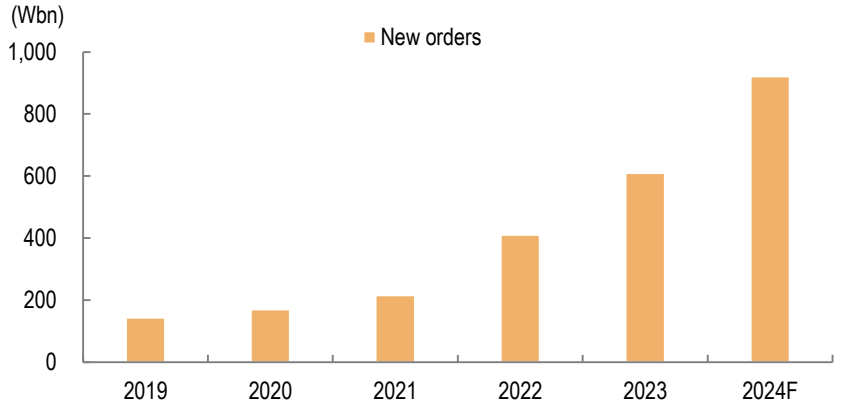
Source: CIS, Mirae Asset Securities Research

PNT: New orders



Source: Mirae Asset Securities Research

CIS: New orders



Source: Mirae Asset Securities Research

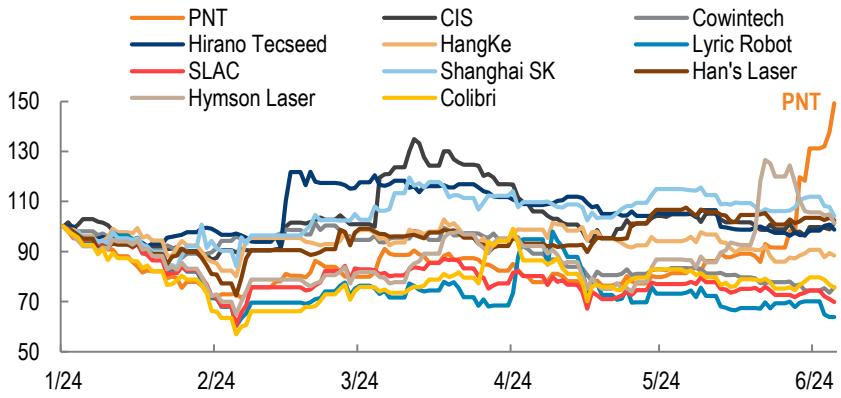
VI. Global peer group valuations

Key earnings and valuation metrics (Wbn, %, x)

	Market cap	Revenue		OP		NP		ROE		P/E		P/B	
		24F	25F	24F	25F	24F	25F	24F	25F	24F	25F	24F	25F
PNT	**1,706**	**1,073**	**1,184**	**171**	**193**	**145**	**165**	**27.0**	**23.8**	**8.7**	**7.6**	**2.1**	**1.6**
CIS	795	449	591	59	91	49	70	16.9	20.0	15.4	10.8	2.5	2.0
Cowintech	237	383	442	25	31	27	27	9.4	9.1	14.2	13.7	1.3	1.2
Hirano Tecseed	252	429	385	30	34	22	24	6.5	-	11.9	10.2	0.7	0.7
HangKe	2,290	925	1,104	227	288	223	285	18.7	20.4	11.3	8.9	2.2	1.8
Lyric Robot	547	1,304	1,403	46	63	48	64	8.3	10.4	12.4	8.9	0.9	0.8
SLAC	797	730	1,070	77	108	62	85	11.8	14.0	12.9	9.3	1.5	1.3
Shanghai SK	949	576	691	60	88	45	65	16.6	19.5	18.0	12.4	3.0	2.4
Han's Laser	1,355	1,069	1,247	72	92	71	92	14.1	15.6	19.1	14.7	2.6	2.3
Hymson Laser	4,093	2,974	3,319	203	274	274	265	8.6	9.6	15.2	15.2	1.4	1.3
Colibri	1,094	702	809	89	106	67	80	12.1	12.7	13.6	11.2	1.8	1.6
Avg. excl. PNT								12.3	14.6	14.4	11.5	1.8	1.5

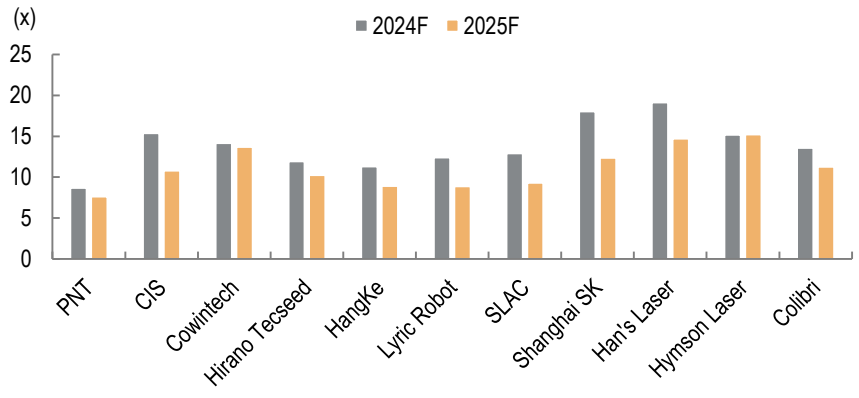
Source: Mirae Asset Securities Research

Relative share performance



Source: Mirae Asset Securities Research

P/E comparison



Source: Mirae Asset Securities Research

[Battery equipment value chain by cell maker]

SK on	LG Energy Solution	SAMSUNG SDI
[Electrode] • **Mixing:** Yunsung F&C, Jeil M&S • **Coating:** PNT • **Calendering:** PNT, Daeco (unlisted) • **Cutting:** PNT, Daeco (unlisted)	**[Electrode]** • **Mixing:** TSI, Yunsung F&C, Jeil M&S • **Coating:** Hirano Tecseed, PNT • **Calendering:** CIS, PNT • **Cutting:** CIS, PNT	**[Electrode]** • **Mixing:** TSI, Jeil M&S • **Coating:** Hanwha, CIS • **Calendering:** Hanwha, CIS • **Cutting:** Hanwha, CIS
[Assembly] • **Notching:** Woowon, Youil • **Stacking:** Woowon, Youil • **Tab welding/packaging:** mPLUS, Hana Technology, Toptec	**[Assembly]** • **Notching:** DE&T, DA Technology • **Lamination:** Nain Tech, Shinjin Mtec • **Stacking:** DA Technology • **Tab welding/packaging:** ETS, System R&D, Hana Technology	**[Assembly]** • **Notching:** PNT • **Stacking:** Philenergy • **Winding:** Koem, Yinghe • **Tab welding/packaging:** MOT (unlisted), Hana Technology
[Formation] • **Formation:** Wonik PNE, HangKe • **Degassing:** NS • **IR/OCV:** Wonik PNE • **Cycling:** Wonik PNE	**[Formation]** • **Formation:** A-Pro, HangKe • **Degassing:** NS • **Cycling:** Wonik PNE	**[Formation]** • **Formation:** Kapjin, Samji • **Cycling:** Wonik PNE
[Automation/ inspection] • **Automation:** SFA, SMCore, Hyundai Movex, T-Robotics • **Vision:** NSYS, Nexstar • **X-ray:** Innometry • **Electromagnetic filtering:** Daebo	**[Automation/inspection]** • **Automation:** Cowintech, Avaco • **Vision:** NSYS, V-One Tech, Viewon, Shinryong, Intekplus • **X-ray:** Innometry	**[Automation/inspection]** • **Automation:** Cowintech, SFA • **Vision:** Nexstar, NSYS • **X-ray:** Innometry

Source: Mirae Asset Securities Research

Company analysis

People & Technology (137400 KQ)

Top pick

Key catalysts emerging; raise TP

(Maintain)	**Buy**
Target price	**▲ W96,700**
Current price (6/10/24)	W76,700
Upside	26.1%

OP (24F, Wbn)	171
Consensus OP (24F, Wbn)	171
EPS growth (24F, %)	100.9
Market EPS growth (24F, %)	76.2
P/E (24F, x)	13.6
Market P/E (24F, x)	11.1
KOSDAQ	864.71
Market cap (Wbn)	1,744
Shares (mn)	23
Free float (%)	79.9
Foreign ownership (%)	8.7
Beta (12M)	1.97
52-week low (W)	36,000
52-week high (W)	80,900

(%)	1M	6M	12M
Absolute	76.5	56.4	36.2
Relative	76.4	50.2	39.2

Investment points

- Global expansion: PNT appears to have begun supplying equipment to major overseas customers (comparable in size to domestic cell customers).
- Dry coating equipment (a potential game-changer): Compared to wet coating, dry coating equipment can reduce production costs by 17%, coater costs by 14%, and electricity costs by 38%.
- Potential new revenue streams: The firm plans to complete the construction of LFP battery lines within 2024 and start producing batteries from 2025 (initial capacity of 0.2GWh). The production of materials using R2R technology is also likely to begin next year.
- The stock is trading at a 2024F P/E of 13.6x, a discount to global peers (15.4x).

Raise TP to W96,700 (from W84,000)

- We derived our target price by applying a P/E of 12x (the average 2025F multiple of global peers) to our 2025 EPS estimate of W8,059.
- We expect top-line growth to continue, supported by increased orders for dry coaters and the start of revenue recognition for the materials business.



(Dec.)	2021	2022	2023	2024F	2025F	2026F
Revenue (Wbn)	378	418	545	1,073	1,516	2,046
OP (Wbn)	54	78	77	171	246	320
OP margin (%)	14.3	18.7	14.1	15.9	16.2	15.6
NP (Wbn)	53	60	70	145	207	264
EPS (W)	2,355	2,645	2,808	5,642	8,059	10,268
ROE (%)	33.5	28.1	20.0	27.5	29.4	28.1
P/E (x)	18.6	16.4	17.9	13.6	9.5	7.5
P/B (x)	5.2	4.0	2.8	3.3	2.4	1.8
Dividend yield (%)	0.3	0.2	0.0	0.0	0.0	0.0

Notes: Under consolidated K-IFRS; NP is attributable to owners of the parent

Source: Company data, Mirae Asset Securities Research estimates

People & Technology (137400 KQ)

Top pick

Securing an early lead in next-gen dry coating technology

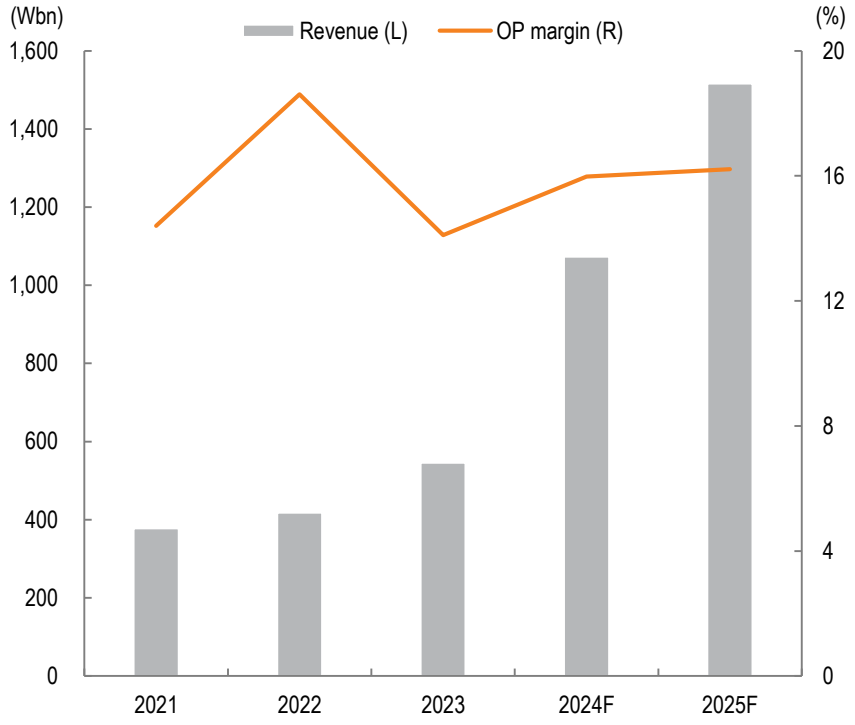
- We revised up our 2025 revenue forecast to W1.5tr from W1.1tr to reflect: 1) revenue recognition from global customers; and 2) sales of ESS-use LFP batteries (starting from 2024).
- Looking further ahead, cell makers' investments in dry electrode manufacturing processes should also help sustain top-line growth.

Estimated revenue from ESS-use LFP batteries in 2024

Assumptions/estimates	Price	Notes
Per-kWh LFP battery price	US$95	
USD/KRW rate	1,370	As of Jun. 10
kWh	200,000	Converted from 0.2GWh
Revenue	W24.7bn	

Source: Mirae Asset Securities Research

PNT: Annual revenue and OP

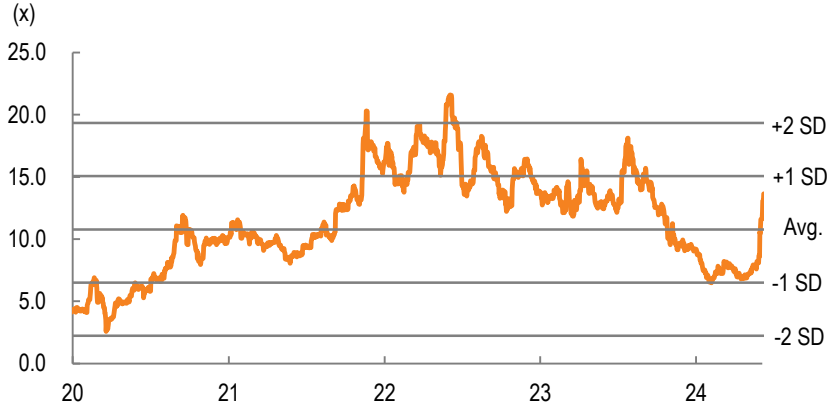


Source: Company data, Mirae Asset Securities Research

People & Technology (137400 KQ)

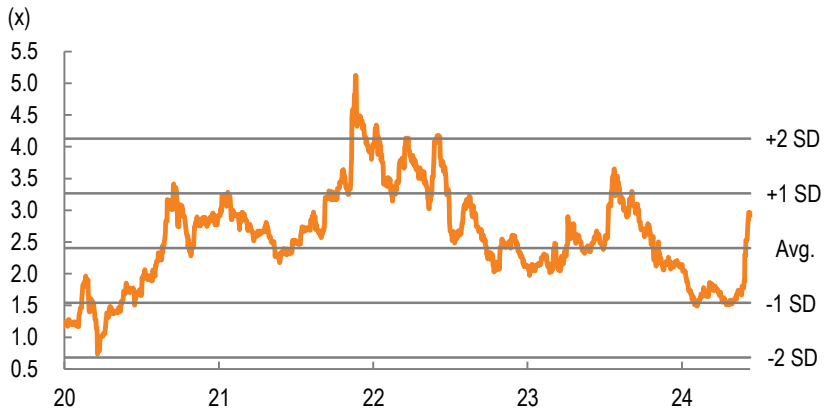
Top pick

PNT: 12-month forward P/E ± 2 SD



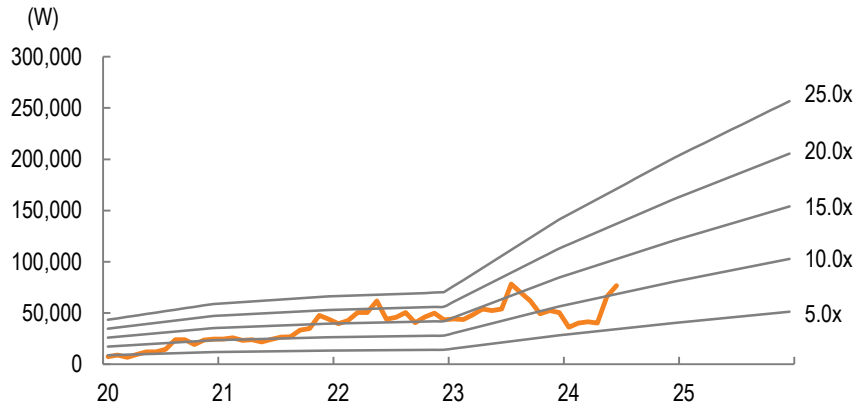
Notes: Consensus Data
Source: Bloomberg, Mirae Asset Securities Research

PNT: 12-month forward P/B ± 2 SD



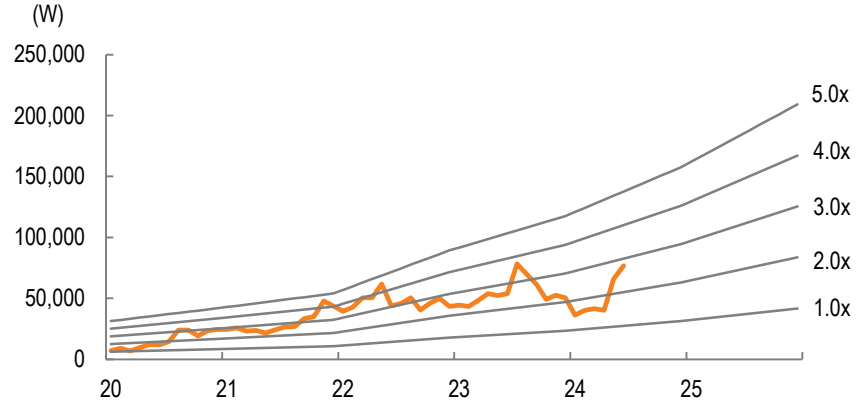
Notes: Consensus data
Source: Bloomberg, Mirae Asset Securities Research

PNT: 12-month forward P/E band chart



Source: DataGuide, Mirae Asset Securities Research

PNT: 12-month forward P/B band chart



Source: DataGuide, Mirae Asset Securities Research

People & Technology (137400 KQ)

Top pick

Income statement (summarized)

(Wbn)	2023	2024F	2025F	2026F
Revenue	545	1,073	1,516	2,046
Cost of revenue	432	824	1,161	1,581
GP	113	249	355	465
SG&A expenses	37	78	109	145
OP (adj.)	77	171	246	320
OP	77	171	246	320
Non-operating profit	6	8	8	4
Net financial income	-2	-2	0	3
Net income from associates	0	0	0	0
Pretax profit	83	179	254	324
Income tax	15	34	46	59
Profit from continuing operations	68	145	208	265
Profit from discontinued operations	0	0	0	0
NP	68	145	208	265
Attributable to owners	70	145	207	264
Attributable to minority interests	-1	0	0	1
Total comprehensive income	65	145	208	265
Attributable to owners	67	150	209	266
Attributable to minority interests	-1	-5	-1	-1
EBITDA	83	177	251	325
FCF	-166	57	78	112
EBITDA margin (%)	15.2	16.5	16.6	15.9
OP margin (%)	14.1	15.9	16.2	15.6
Net margin (%)	12.8	13.5	13.7	12.9

Balance sheet (summarized)

(Wbn)	2023	2024F	2025F	2026F
Current assets	1,269	1,719	2,450	3,364
Cash & equivalents	25	80	142	252
AR & other receivables	82	131	184	248
Inventory	1,016	1,320	1,865	2,518
Other current assets	146	188	259	346
Non-current assets	332	328	324	321
Investments in associates	0	0	0	0
PP&E	300	295	290	285
Intangible assets	2	2	2	1
Total assets	1,601	2,047	2,774	3,685
Current liabilities	1,094	1,394	1,913	2,559
AP & other payables	160	205	290	392
Short-term financial liabilities	89	89	70	70
Other current liabilities	845	1,100	1,553	2,097
Non-current liabilities	43	43	44	44
Long-term financial liabilities	43	43	43	43
Other non-current liabilities	0	0	1	1
Total liabilities	1,137	1,437	1,957	2,603
Equity attributable to owners	456	601	807	1,072
Capital stock	13	13	13	13
Capital surplus	204	204	204	204
Retained earnings	248	393	600	864
Minority interests	9	9	10	10
Shareholders' equity	465	610	817	1,082

Key valuation metrics/ratios

	2023	2024F	2025F	2026F
P/E (x)	17.9	13.6	9.5	7.5
P/CF (x)	14.7	10.5	7.7	6.1
P/B (x)	2.8	3.3	2.4	1.8
EV/EBITDA (x)	15.3	10.1	6.8	4.9
EPS (W)	2,808	5,642	8,059	10,268
CFPS (W)	3,437	7,277	9,904	12,649
BPS (W)	17,874	23,501	31,560	41,828
DPS (W)	0	0	0	0
Dividend payout ratio (%)	0.0	0.0	0.0	0.0
Dividend yield (%)	0.0	0.0	0.0	0.0
Revenue growth (%)	30.5	96.7	41.3	35.0
EBITDA growth (%)	1.5	114.5	41.9	29.5
OP growth (%)	-1.1	122.8	43.4	30.3
EPS growth (%)	6.2	100.9	42.8	27.4
AR turnover (x)	8.8	10.4	9.9	9.8
Inventory turnover (x)	0.6	0.9	1.0	0.9
AP turnover (x)	2.7	4.8	5.1	5.0
ROA (%)	5.1	8.0	8.6	8.2
ROE (%)	20.0	27.5	29.4	28.1
ROIC (%)	15.8	24.1	29.4	31.7
Debt-to-equity ratio (%)	244.6	235.7	239.5	240.6
Current ratio (%)	116.1	123.3	128.1	131.5
Net debt-to-equity ratio (%)	22.9	6.2	-5.2	-14.2
Interest coverage ratio (x)	22.9	37.7	58.3	82.4

CIS (222080 KQ)

Stock to watch

Leader in next-gen hybrid coaters; lifting 2024 earnings forecasts

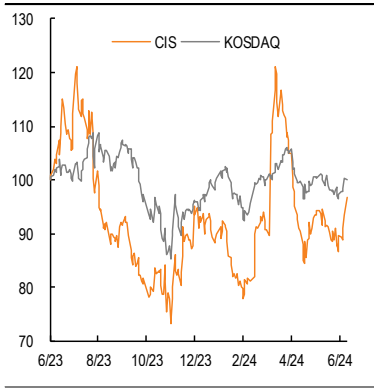
(Maintain)	**Buy**
Target price	**W15,300**
Current price (6/10/24)	W11,840
Upside	29.2%

OP (24F, Wbn)	66
Consensus OP (24F, Wbn)	0
EPS growth (24F, %)	70.3
Market EPS growth (24F, %)	76.2
P/E (24F, x)	16.0
Market P/E (24F, x)	11.1
KOSDAQ	864.71
Market cap (Wbn)	846
Shares (mn)	71
Free float (%)	65.9
Foreign ownership (%)	11.2
Beta (12M)	1.12
52-week low (W)	8,970
52-week high (W)	14,840

(%)	1M	6M	12M
Absolute	2.3	5.1	-7.7
Relative	2.3	0.9	-5.7

Investment points

- CIS is strengthening its competitiveness in electrode fabrication processes through the development of hybrid coating equipment.
- The firm is collaborating with major cell makers and OEMs to conduct tests on hybrid coaters. Of note, hybrid coaters offer cell makers benefits like improved space utilization and energy savings during production.
- We believe a full-fledged revenue recognition cycle has begun.
- With the firm set to be incorporated into SFA as a subsidiary, we expect margins to improve on enhanced operational efficiency and cost reductions.
- CIS should see additional momentum from expectations for the development of solid-state batteries by its subsidiary CI Solid.



(Dec.)	2020	2021	2022	2023	2024F	2025F
Revenue (Wbn)	118	133	159	310	449	591
OP (Wbn)	14	16	8	39	66	89
OP margin (%)	11.8	12.0	5.0	12.6	14.7	15.1
NP (Wbn)	-4	-25	12	29	53	69
EPS (W)	-78	-422	190	434	739	969
ROE (%)	-7.7	-21.6	9.3	14.4	17.8	19.1
P/E (x)	-	-	47.4	25.3	16.0	12.2
P/B (x)	8.4	7.8	4.1	2.9	2.6	2.1
Dividend yield (%)	0	0.0	0.0	0.0	0.0	0.0

Notes: Under consolidated K-IFRS; NP is attributable to owners of the parent

Source: Company data, Mirae Asset Securities Research estimates

CIS (222080 KQ)

Stock to watch

Income statement (summarized)

(Wbn)	2022	2023	2024F	2025F
Revenue	159	310	449	591
Cost of revenue	124	252	351	468
GP	35	58	98	123
SG&A expenses	28	20	32	34
OP (adj.)	8	39	66	89
OP	8	39	66	89
Non-operating profit	8	-3	0	0
Net financial income	-2	0	0	1
Net income from associates	-1	0	0	0
Pretax profit	16	36	66	89
Income tax	4	7	14	20
Profit from continuing operations	12	29	52	69
Profit from discontinued operations	0	0	0	0
NP	12	29	52	69
Attributable to owners	12	29	53	69
Attributable to minority interests	0	0	0	0
Total comprehensive income	12	29	52	69
Attributable to owners	12	29	53	69
Attributable to minority interests	0	0	0	0
EBITDA	9	41	70	93
FCF	39	-84	92	47
EBITDA margin (%)	5.7	13.2	15.6	15.7
OP margin (%)	5.0	12.6	14.7	15.1
Net margin (%)	7.5	9.4	11.8	11.7

Balance sheet (summarized)

(Wbn)	2022	2023	2024F	2025F
Current assets	346	481	456	597
Cash & equivalents	104	80	137	189
AR & other receivables	16	38	27	35
Inventory	145	297	211	277
Other current assets	81	66	81	96
Non-current assets	98	116	110	105
Investments in associates	0	0	0	0
PP&E	87	100	97	93
Intangible assets	1	1	1	1
Total assets	444	597	565	703
Current liabilities	278	327	235	303
AP & other payables	19	55	39	51
Short-term financial liabilities	44	39	31	35
Other current liabilities	215	233	165	217
Non-current liabilities	26	4	3	4
Long-term financial liabilities	22	1	1	1
Other non-current liabilities	4	3	2	3
Total liabilities	304	331	238	307
Equity attributable to owners	137	264	327	397
Capital stock	6	7	7	7
Capital surplus	120	217	228	228
Retained earnings	8	37	89	159
Minority interests	3	2	0	-1
Shareholders' equity	140	266	327	396

Key valuation metrics/ratios

	2022	2023	2024F	2025F
P/E (x)	47.4	25.3	16.0	12.2
P/CF (x)	19.0	15.1	11.5	9.4
P/B (x)	4.1	2.9	2.6	2.1
EV/EBITDA (x)	58.7	17.7	10.1	7.0
EPS (W)	190	434	739	969
CFPS (W)	474	729	1,033	1,265
BPS (W)	2,221	3,747	4,579	5,548
DPS (W)	0	0	0	0
Dividend payout ratio (%)	0.0	0.0	0.0	0.0
Dividend yield (%)	0.0	0.0	0.0	0.0
Revenue growth (%)	20.1	94.6	44.9	31.5
EBITDA growth (%)	-48.2	365.1	69.2	33.4
OP growth (%)	-52.2	398.5	68.5	35.8
EPS growth (%)	-	128.9	70.3	31.1
AR turnover (x)	11.7	12.0	14.1	19.4
Inventory turnover (x)	1.2	1.4	1.8	2.4
AP turnover (x)	7.4	8.7	9.9	13.7
ROA (%)	3.0	5.5	9.0	10.9
ROE (%)	9.3	14.4	17.8	19.1
ROIC (%)	5.3	19.3	26.4	35.2
Debt-to-equity ratio (%)	217.1	124.8	72.8	77.5
Current ratio (%)	124.3	147.1	193.7	196.9
Net debt-to-equity ratio (%)	-27.2	-16.3	-43.7	-48.5
Interest coverage ratio (x)	3.1	14.8	32.4	47.1

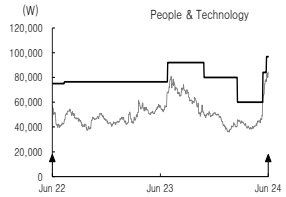
Source: Company data, Mirae Asset Securities Research estimates

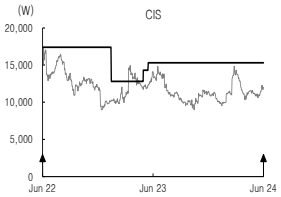
Appendix 1

Important disclosures and disclaimers

Two-year rating and TP history

Company	Date	Rating	TP (W)	Company	Date	Rating	TP (W)
People & Technology (137400)				CIS (222080)			
	06/11/24	Buy	96,700		06/02/23	Buy	15,300
	05/30/24	Buy	84,000		05/17/23	Buy	14,300
	03/05/24	Buy	60,000		01/31/23	Buy	12,800
	11/13/23	Buy	80,000		05/23/22	Buy	17,400
	07/13/23	Buy	92,000				
	07/29/22	Buy	76,500				
	05/23/22	Buy	75,000				





Stock ratings	
Buy	Expected 12-month performance: +20% or greater
Trading Buy	Expected 12-month performance: +10% to +20%
Hold	Expected 12-month performance: -10% to +10%
Sell	Expected 12-month performance: -10% or worse

Sector ratings	
Overweight	Expected to outperform the market over 12 months
Neutral	Expected to perform in line with the market over 12 months
Underweight	Expected to underperform the market over 12 months

Rating and TP history: Share price (—), TP (▬), Not Rated (■), Buy (▲), Trading Buy (■), Hold (●), Sell (♦)
* Our investment rating is a guide to the expected return of the stock over the next 12 months.
* Outside of the official ratings of Mirae Asset Securities Co., Ltd., analysts may call trading opportunities should technical or short-term material developments arise.
* The TP was determined by the research analyst through valuation methods discussed in this report, in part based on estimates of future earnings.
* TP achievement may be impeded by risks related to the subject securities and companies, as well as general market and economic conditions.

Ratings distribution and investment banking services

	Buy	Trading Buy	Hold	Sell
Ratings distribution	85.36%	9.15%	5.49%	0%
Investment banking services	80.96%	9.52%	9.52%	0%

* Based on recommendations in the last 12-months (as of March 31, 2024)

Appendix 1

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