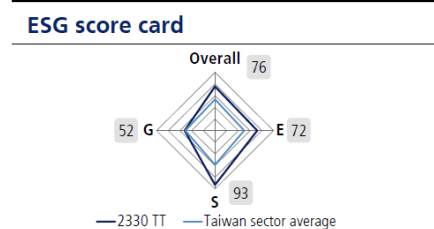


# TSMC (2330.TW/2330 TT)

## A savior of technology stocks

FTSE4Good TIP Taiwan ESG Index stock			
<b>Outperform - Maintained</b>			
Price as of October 17 (NT\$)	1,035		
12M target price (NT\$)	1,450		
Previous target price (NT\$)	1,330		
Revised up (%)	9.0		
Upside (%)	40.1		
<b>Key message</b>			
<ol style="list-style-type: none"> <li>3Q24 results beat expectations.</li> <li>4Q24F sales guided to grow 10-13% QoQ.</li> <li>Semiconductor upcycle not yet over.</li> </ol>			
<b>Trading data</b>			
Mkt cap (NT\$bn/US\$mn)	26,840 / 834,476		
Outstanding shares (mn)	25,933		
Foreign ownership (mn)	19,110		
3M avg. daily trading (mn)	32.63		
52-week trading range (NT\$)	528 - 1,080		
<b>Performance</b>	<b>3M</b>	<b>6M</b>	<b>12M</b>
Absolute (%)	0.5	28.7	87.8
Relative (%)	3.5	14.6	49.3

<b>Quarterly EPS</b>				
NT\$	1Q	2Q	3Q	4Q
2023	7.98A	7.01A	8.14A	9.21A
2024	8.70A	9.56A	12.54F	14.43F
2025	12.43F	12.84F	15.62F	16.98F



Source: Refinitiv

### Event

TSMC's 3Q24 earnings beat our forecast thanks to gross margin expansion on a higher utilization rate. The company raised full-year sales guidance, as we expected, but gross margin guidance was much better than expected.

### Impact

**3Q24 results beat expectations.** 3Q24 sales were NT\$759.7bn, up 12.8% QoQ and 39% YoY, slightly above guidance of 8-12% QoQ growth. Sales were in line with our forecast and slightly ahead of consensus. Gross margin of 57.8% surpassed guidance of 53.5-55.5%, as strong AI and smartphone demand pushed up the utilization rate more than expected. Operating margin was 47.5% (vs. 42.5% in 2Q24), thanks to operating leverage and a higher gross margin. Net income of NT\$325bn (up 31.2% QoQ and 54.2% YoY) beat our forecast and consensus by 6.9% and 8.8%, respectively.

**4Q24F sales guided to grow 10-13% QoQ.** TSMC guides 4Q24F sales of NT\$835.2-860.8bn, up 10-13% QoQ, much better than our forecast of 8% QoQ growth. We attribute the strong momentum to: (1) robust AI demand at N4, noting the utilization rate will increase from 85% in 3Q24 to 110% in 4Q24F; (2) strong N3 demand from Intel's (US) Lunar Lake, Apple's (US) A18 and mobile SOCs' N3 migration. TSMC guides 4Q24F gross margin of 57-59% as electricity price hikes and N3 margin dilution will be offset by a higher utilization rate. Net-net, the company raised 2024F sales guidance from 25% YoY to close to 30% (US dollar terms). We have raised 2024-25F sales growth to 33.5% and 25% YoY to reflect stronger-than-expected utilization rate improvement.

**Upcycle not yet over.** TSMC remains positive on AI demand, and believes it is just at the beginning of the AI upcycle. It expects AI (GPU, CPU and AI accelerator) sales exposure to triple in 2024F and to account for a mid-teens percent of sales. Considering lukewarm non-AI recovery and historical patterns (two years of expansion followed by two years of contraction), we expect the cycle to peak in 2025F. However, TSMC is still benefiting from ongoing market share expansion, particularly on outsource orders from Intel, major clients' N3 migration and strong AI demand. Therefore, we expect the current semiconductor cycle to have less of an impact on TSMC's business than previous cycles.

### Valuation & Action

To factor in upside from cost reduction and higher sales, we revise up 2024-25F EPS by 5.7% and 8.5%, respectively. Thus, we raise our target price to NT\$1,450, still based on 25x 2025F EPS. We are positive on TSMC as we have yet to see the semiconductor upcycle near its end and given limited competition in advanced nodes. Maintain Outperform.

### Risks

Global macro and geopolitical uncertainties; prolonged inventory correction.

### Key financials and valuations

	Dec-22A	Dec-23A	Dec-24F	Dec-25F	Dec-26F
Revenue (NT\$mn)	2,263,891	2,161,736	2,886,268	3,608,048	4,342,768
Gross profit (NT\$mn)	1,348,355	1,175,111	1,615,141	2,071,848	2,534,416
Operating profit (NT\$mn)	1,121,279	921,088	1,309,162	1,705,659	2,097,274
Net profit (NT\$mn)	1,016,530	838,498	1,172,761	1,500,525	1,829,804
EPS (NT\$)	39.20	32.34	45.23	57.87	70.57
Cash DPS (NT\$)	11.00	13.00	16.00	18.00	18.00
EPS growth (%)	70.4	(17.5)	39.9	27.9	21.9
PE (x)	26.4	32.0	22.9	17.9	14.7
PB (x)	9.1	7.8	6.3	5.1	4.0
EV/EBITDA (x)	16.6	17.5	12.8	10.3	8.7
Net debt to equity (%)	Net cash	Net cash	Net cash	Net cash	Net cash
Dividend yield (%)	1.1	1.3	1.5	1.7	1.7
Return on average equity (%)	39.8	26.2	30.4	31.5	30.7

Source: Company data, KGI Research estimates

**Figure 1: Breakdown of 3Q24 results & 4Q24 forecast revisions vs. consensus**

NT\$m	3Q24							4Q24F						
	Actual	KGI forecast	Diff. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	QoQ (%)	YoY (%)	Consensus	Diff. (%)
Revenue	759,692	760,544	(0.1)	12.8	39.0	751,063	1.1	860,422	821,397	4.8	13.3	37.6	802,368	7.2
Gross profit	439,345	414,305	6.0	22.7	48.1	411,477	6.8	503,167	443,818	13.4	14.5	51.7	439,000	14.6
Operating profit	360,766	334,144	8.0	24.8	58.4	330,819	9.1	412,822	364,142	13.4	14.4	58.7	355,391	16.2
Net profit	325,258	304,352	6.9	31.2	54.2	299,014	8.8	374,172	332,069	12.7	15.0	56.7	321,184	16.5
EPS (NT\$)	12.54	11.74	6.9	31.2	54.2	11.55	8.6	14.43	12.81	12.7	15.0	56.7	12.35	16.8
Gross margin (%)	57.8	54.5	3.4 ppts	4.7 ppts	3.6 ppts	54.8	3.0 ppts	58.5	54.3	4.1 ppts	0.6 ppts	5.4 ppts	54.7	3.8 ppts
OP margin (%)	47.5	43.9	3.6 ppts	4.6 ppts	5.8 ppts	44.0	3.4 ppts	48.0	43.8	4.2 ppts	0.5 ppts	6.4 ppts	44.3	3.7 ppts
Net margin (%)	42.8	40.0	2.8 ppts	6.0 ppts	4.2 ppts	39.8	3.0 ppts	43.5	39.9	3.6 ppts	0.7 ppts	5.3 ppts	40.0	3.5 ppts

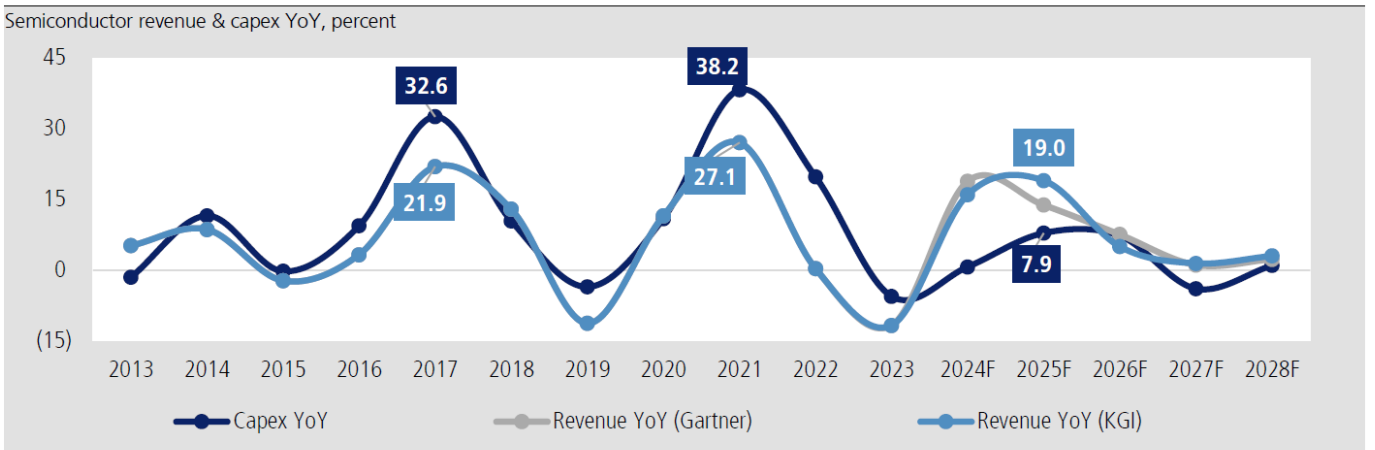
Source: Bloomberg, KGI Research estimates

**Figure 2: Breakdown of 2024-25 forecast revisions vs. consensus**

NT\$m	2024F							2025F						
	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)	Revision	Previous	Chg. (%)	YoY (%)	Consensus	Diff. (%)		
Revenue	2,886,268	2,848,096	1.3	33.5	2,822,754	2.3	3,608,048	3,457,401	4.4	25.0	3,494,314	3.3		
Gross profit	1,615,141	1,530,752	5.5	37.4	1,523,948	6.0	2,071,848	1,902,431	8.9	28.3	1,934,033	7.1		
Operating profit	1,309,162	1,233,860	6.1	42.1	1,221,095	7.2	1,705,659	1,554,430	9.7	30.3	1,578,835	8.0		
Net profit	1,172,761	1,109,752	5.7	39.9	1,092,723	7.3	1,500,525	1,382,414	8.5	27.9	1,401,870	7.0		
EPS (NT\$)	45.23	42.80	5.7	39.9	42.20	7.2	57.87	53.32	8.5	27.9	54.07	7.0		
Gross margin (%)	56.0	53.3	2.6 ppts	1.6 ppts	54.0	2.0 ppts	57.4	54.8	2.7 ppts	1.5 ppts	55.3	2.1 ppts		
OP margin (%)	45.4	42.9	2.5 ppts	2.7 ppts	43.3	2.1 ppts	47.3	44.7	2.5 ppts	1.9 ppts	45.2	2.1 ppts		
Net margin (%)	40.6	38.6	2.0 ppts	1.8 ppts	38.7	1.9 ppts	41.6	39.8	1.7 ppts	1.0 ppts	40.1	1.5 ppts		

Source: Bloomberg, KGI Research estimates

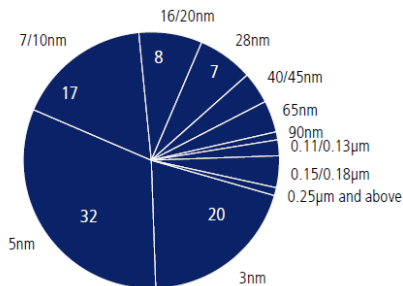
**Figure 3: Semiconductor revenue & capex growth YoY**



Source: Gartner, KGI Research estimates

**Figure 4: TSMC's wafer revenue by node**

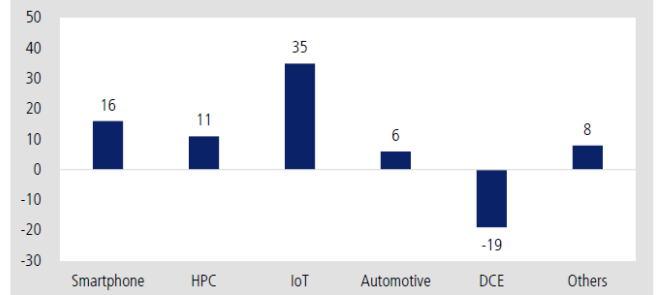
Wafer revenue weighting, percent



Source: Company data, KGI Research

**Figure 5: TSMC's revenue by platform**

Platform revenue QoQ, percent



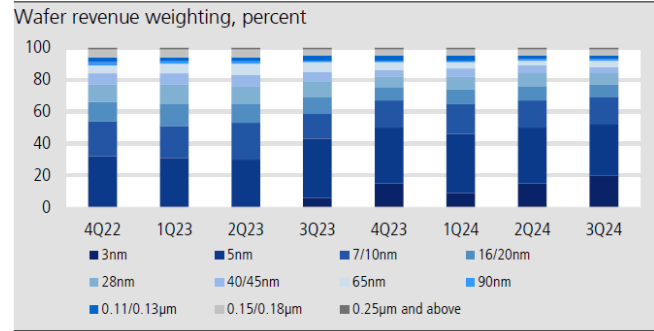
Source: Company data, KGI Research

**Figure 6: Company profile**

Taiwan Semiconductor Manufacturing Company (TSMC), the world's largest dedicated semiconductor foundry, has increased its market share in recent years. Capacity exceeded 16mn 8-inch equivalent wafers in 2013. TSMC operates six advanced 300mm wafer fabs, six 8-inch wafer fabs, and one 6-inch wafer fab, and is building a new 300mm wafer fab. The company provides the following services: wafer manufacturing, wafer probing, assembly and testing, mask production, and design services.

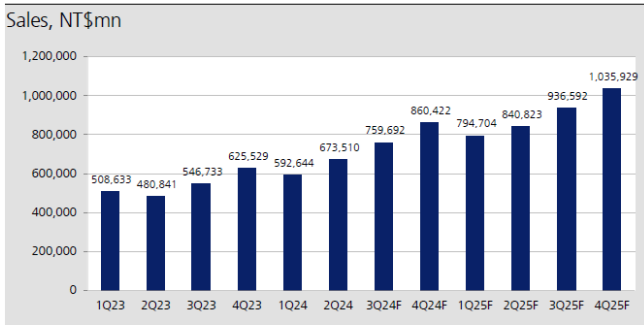
Source: Company data, KGI Research

**Figure 7: TSMC's wafer revenue by node**



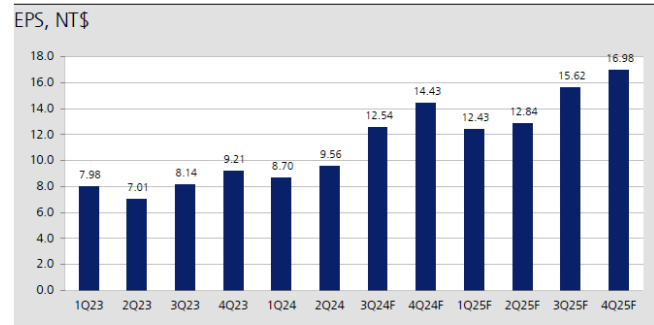
Source: Company data, KGI Research

**Figure 8: Sales**



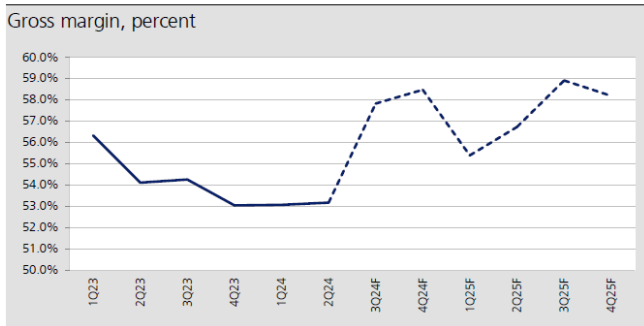
Source: KGI Research

**Figure 9: EPS**



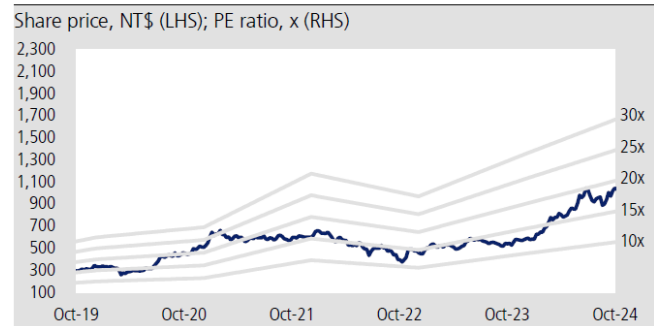
Source: KGI Research

**Figure 10: Gross margin**



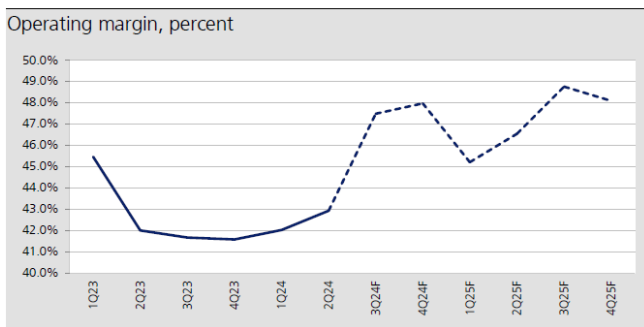
Source: KGI Research

**Figure 11: 12M forward PE band**



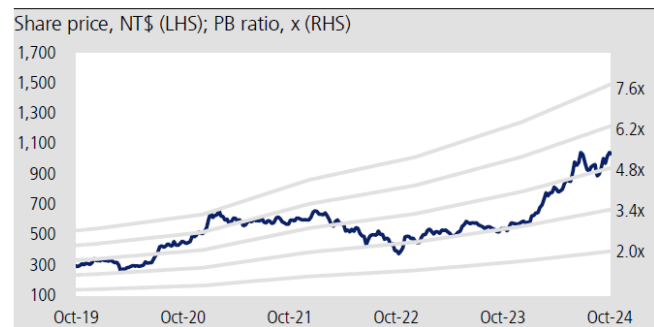
Source: TEJ, KGI Research estimates

**Figure 12: Operating margin**



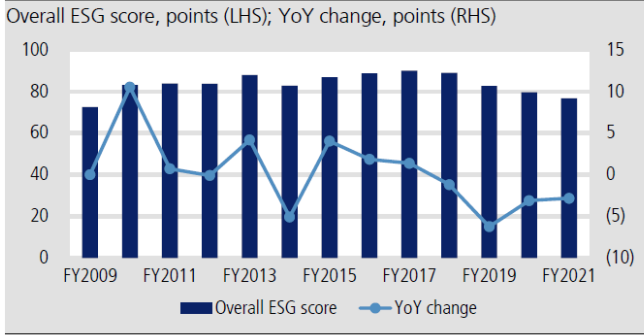
Source: KGI Research

**Figure 13: 12M forward PB band**



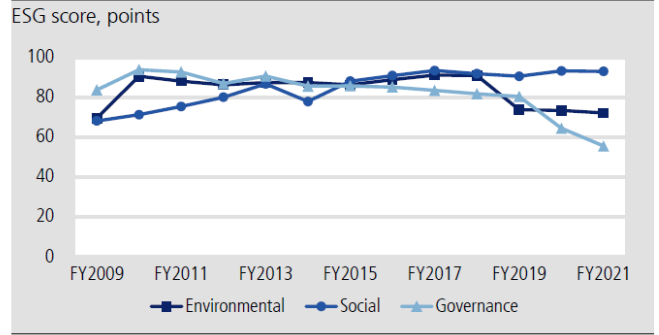
Source: TEJ, KGI Research estimates

**Figure 14: Overall ESG score**



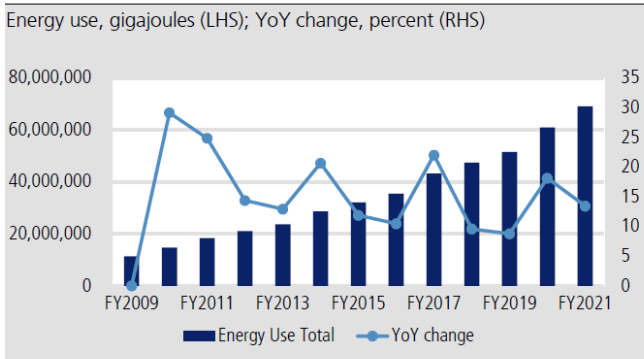
Source: Refinitiv, Company data

**Figure 15: ESG score by category**



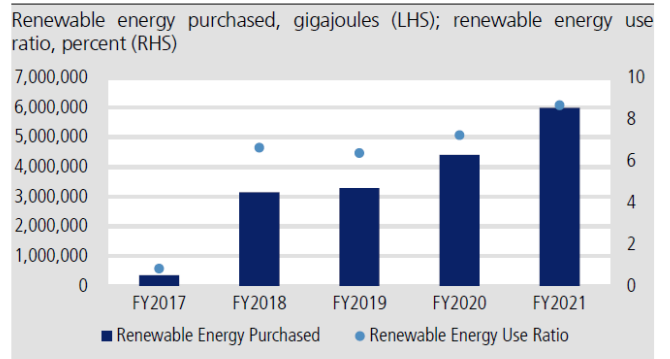
Source: Refinitiv, Company data

**Figure 16: Energy use**



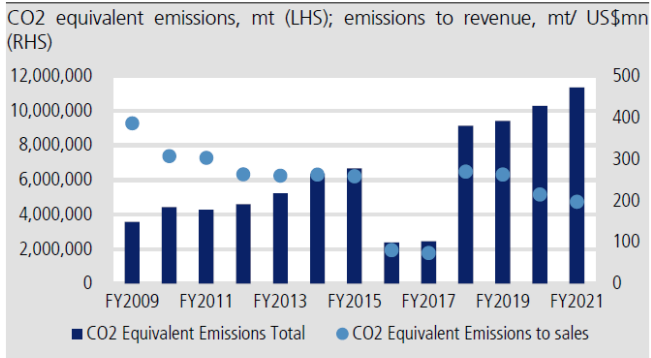
Source: Refinitiv, Company data

**Figure 17: Renewable energy**



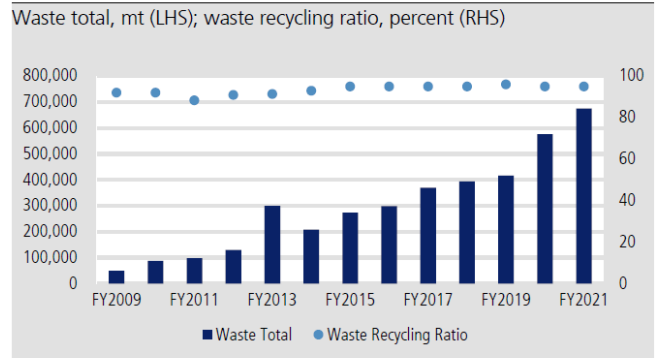
Source: Refinitiv, Company data

**Figure 18: CO2 equivalent emissions**



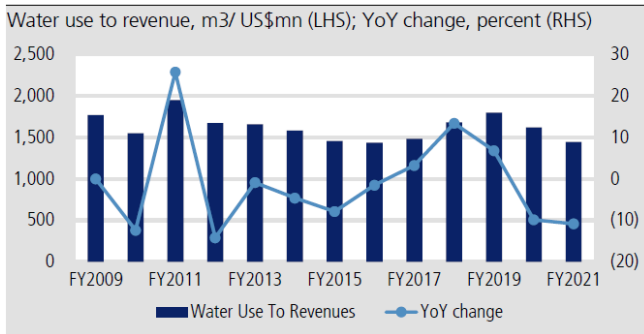
Source: Refinitiv, Company data

**Figure 19: Waste total**



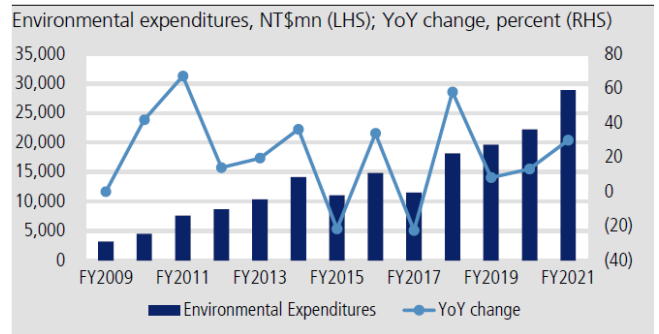
Source: Refinitiv, Company data

**Figure 20: Water use to revenue**

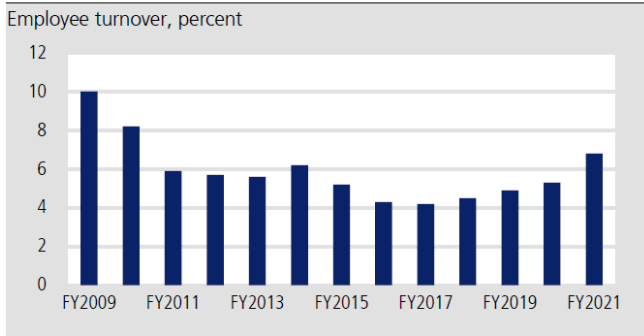


Source: Refinitiv, Company data

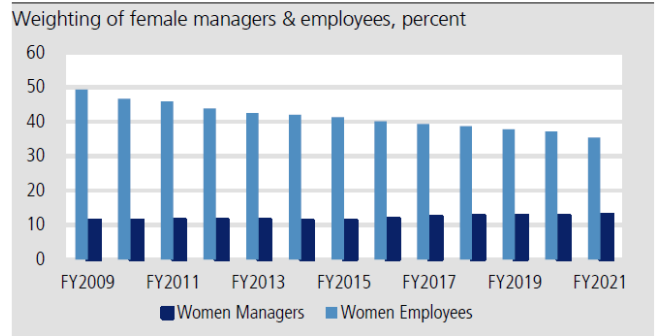
**Figure 21: Environmental expenditures**



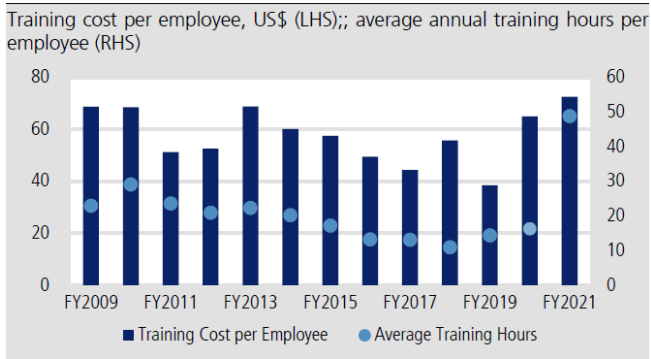
Source: Refinitiv, Company data

**Figure 22: Employee turnover**


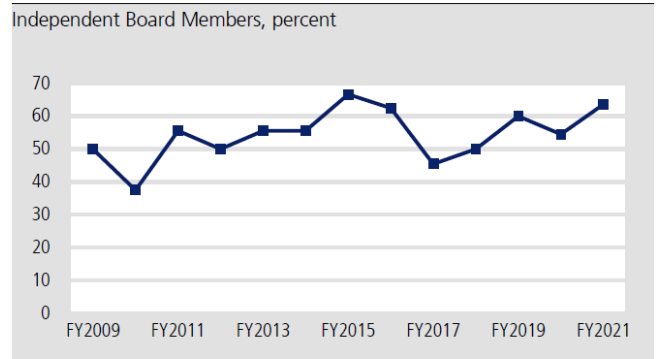
Source: Refinitiv, Company data

**Figure 23: Gender diversification**


Source: Refinitiv, Company data

**Figure 24: Employee training**


Source: Refinitiv, Company data

**Figure 25: Independent Board Members**


Source: Refinitiv, Company data

**ESG chart definition**

Item	Definition	Remarks
Energy use	<p>Total direct and indirect energy consumption in gigajoules.</p> <ul style="list-style-type: none"> <li>- the total amount of energy that has been consumed within the boundaries of the company's operations</li> <li>- total energy use = total direct energy consumption + indirect energy consumption</li> <li>- purchased energy and produced energy are included in total energy use</li> <li>- for utilities, transmission/ grid loss as part of its business activities is considered as total energy consumed and data does not consider electricity produced to answer energy use (utility company produces to sell)</li> <li>- for utilities, raw materials such as coal, gas or nuclear used in the production of energy are not considered under 'total energy use'</li> </ul>	
Renewable energy purchased	<p>Total primary renewable energy purchased in gigajoules.</p> <ul style="list-style-type: none"> <li>- energy consumed by the company from various sources and among the purchased energy, how much energy is renewable in nature (solar, wind, hydro, biomass, geothermal) are in scope</li> <li>- if there is no evidence that renewable energy is produced by the company, then we consider the reported energy figure as renewable energy purchased</li> </ul>	
Renewable energy use ratio	Renewable energy to total energy used	
CO2 equivalent emissions	<p>Direct CO2 and CO2 equivalent emissions in metric tons.</p> <ul style="list-style-type: none"> <li>- direct emissions from sources that are owned or controlled by the company (scope 1 emissions)</li> <li>- following gases are relevant: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorinated compound (PFCS), sulfur hexafluoride (SF6), nitrogen trifluoride (NF3)</li> </ul>	
CO2 equivalent emissions to sales	<p>Direct CO2 and CO2 equivalent emissions (metric tons) to sales (NT\$m)</p> <ul style="list-style-type: none"> <li>- direct emissions from sources that are owned or controlled by the company (scope 1 emissions)</li> <li>- following gases are relevant: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorinated compound (PFCS), sulfur hexafluoride (SF6), nitrogen trifluoride (NF3)</li> </ul>	
Waste total	<p>Total amount of waste produced in metric tons.</p> <ul style="list-style-type: none"> <li>- total waste = non-hazardous waste + hazardous waste</li> <li>- only solid waste is taken into consideration, exceptionally if liquid waste is reported in metric tons, then we do the summation to derive total including liquid waste</li> <li>- for sectors like mining, oil &amp; gas, waste generation like tailings, waste rock, coal and fly ash are also considered</li> </ul>	
Waste recycling ratio	<p>The waste recycling ratio as reported by the company.</p> <ul style="list-style-type: none"> <li>- waste recycling ratio = waste recycled/total waste*100</li> <li>- waste to energy or waste incinerated with energy recovery are considered as waste recycled</li> <li>- waste recovered via composting is considered as recycled waste</li> </ul>	
Water withdrawal total	<p>Total water withdrawal in cubic meters.</p> <ul style="list-style-type: none"> <li>- the total volume of water withdrawn from any water source that was either withdrawn directly by the reporting organization or through intermediaries such as water utilities</li> <li>- different sources of water like wells, town/utility/municipal water, river water, and surface water are considered</li> </ul>	
Environmental expenditures	<p>Total amount of environmental expenditures.</p> <ul style="list-style-type: none"> <li>- all environmental investment &amp; expenditures for environmental protection or to prevent, reduce, control environmental aspects, impacts, and hazards. It also includes disposal, treatment, sanitation, and clean-up expenditures</li> </ul>	
Turnover of employees	<p>Percentage of employee turnover.</p> <ul style="list-style-type: none"> <li>- includes employees who left the company for any reason (voluntary or involuntary), such as resignations, retirement, natural departure/death, medical incapacitation, redundancy, layoffs, restructuring, dismissal, retrenchment or end of a fixed-term contract</li> <li>- employees turnover rate = (employees leaving/average number of employees)*100</li> <li>- where the average number of employees = (employees at the end of the current year + employees at the end of the previous year)/2</li> <li>- employees at the end of the current fiscal year = employees at the end of the previous fiscal year + new employees - employees leaving</li> </ul>	
Women managers	<p>Percentage of women managers.</p> <ul style="list-style-type: none"> <li>- percentage of women managers among total managers of the company</li> <li>- if there is a breakdown by category in percentage, such as top, senior, middle, and junior management, then we consider the percentage of middle women managers</li> <li>- percentage of women managers = number of women managers/total number of managers*100</li> </ul>	
Women employees	<p>Percentage of women employees.</p> <ul style="list-style-type: none"> <li>- percentage of women employees to the total number of employees of the company</li> <li>- percentage of women employees = number of women/total number of employees*100</li> </ul>	
Training hours total	<p>Total training hours performed by all employees.</p> <ul style="list-style-type: none"> <li>- consider only employee training hours</li> <li>- includes all types of training given to general employees (such as health &amp; safety, environmental, emergency response, skills &amp; career development training)</li> <li>- if the value is given in days, multiply by 8, assuming that 1 day = 8 hours worked</li> </ul>	
Training hours per employee	Training hours per employee per year	

Source: Refinitiv, KGI Research

**Income statement**

	Quarterly								Annually		
	Mar-24A	Jun-24A	Sep-24F	Dec-24F	Mar-25F	Jun-25F	Sep-25F	Dec-25F	Dec-24F	Dec-25F	Dec-26F
<b>Income statement (NT\$mn)</b>											
<b>Revenue</b>	<b>592,644</b>	<b>673,510</b>	<b>759,692</b>	<b>860,422</b>	<b>794,704</b>	<b>840,823</b>	<b>936,592</b>	<b>1,035,929</b>	<b>2,886,268</b>	<b>3,608,048</b>	<b>4,342,768</b>
Cost of goods sold	(278,139)	(315,386)	(320,347)	(357,255)	(354,492)	(363,845)	(384,799)	(433,063)	(1,271,127)	(1,536,199)	(1,808,353)
<b>Gross profit</b>	<b>314,505</b>	<b>358,124</b>	<b>439,345</b>	<b>503,167</b>	<b>440,212</b>	<b>476,978</b>	<b>551,793</b>	<b>602,865</b>	<b>1,615,141</b>	<b>2,071,848</b>	<b>2,534,416</b>
Operating expenses	(65,487)	(69,022)	(78,579)	(90,344)	(80,901)	(85,596)	(95,064)	(104,629)	(305,979)	(366,190)	(437,141)
<b>Operating profit</b>	<b>249,018</b>	<b>289,103</b>	<b>360,766</b>	<b>412,822</b>	<b>359,311</b>	<b>391,382</b>	<b>456,729</b>	<b>498,237</b>	<b>1,309,162</b>	<b>1,705,659</b>	<b>2,097,274</b>
Depreciation of fixed assets	(156,697)	(162,929)	(175,358)	(154,524)	(163,437)	(170,884)	(178,331)	(172,746)	(649,509)	(685,398)	(690,983)
Amortisation of intangible assets	(2,326)	(2,237)	(3,738)	(2,951)	(3,252)	(3,361)	(3,801)	(3,299)	(11,252)	(13,713)	(13,816)
<b>EBITDA</b>	<b>408,041</b>	<b>454,269</b>	<b>539,862</b>	<b>570,297</b>	<b>526,000</b>	<b>565,627</b>	<b>638,861</b>	<b>674,281</b>	<b>1,969,923</b>	<b>2,404,770</b>	<b>2,802,074</b>
Interest income	19,359	20,979	22,604	20,979	20,979	20,979	20,979	20,979	83,922	83,917	83,917
Investment income	950	1,355	1,561	1,200	1,200	1,200	1,200	1,200	5,066	4,800	4,800
Other non-op income	0	(0)	1,894	-	-	-	-	-	1,894	-	-
<b>Non-operating income</b>	<b>20,309</b>	<b>22,335</b>	<b>26,059</b>	<b>22,179</b>	<b>22,179</b>	<b>22,179</b>	<b>22,179</b>	<b>22,179</b>	<b>90,882</b>	<b>88,717</b>	<b>88,717</b>
Interest expense	(2,698)	(2,638)	(2,638)	(2,638)	(2,638)	(2,638)	(2,638)	(2,638)	(10,613)	(10,553)	(10,553)
Investment loss	-	-	-	-	-	-	-	-	-	-	-
Other non-op expenses	(86)	58	-	-	-	-	-	-	(27)	-	-
<b>Non-operating expenses</b>	<b>(2,784)</b>	<b>(2,580)</b>	<b>(2,638)</b>	<b>(2,638)</b>	<b>(2,638)</b>	<b>(2,638)</b>	<b>(2,638)</b>	<b>(2,638)</b>	<b>(10,640)</b>	<b>(10,553)</b>	<b>(10,553)</b>
<b>Pre-tax profit</b>	<b>266,543</b>	<b>308,858</b>	<b>384,187</b>	<b>432,363</b>	<b>378,852</b>	<b>410,923</b>	<b>476,270</b>	<b>517,778</b>	<b>1,389,404</b>	<b>1,783,823</b>	<b>2,175,439</b>
Current taxation	(41,322)	(58,649)	(59,107)	(58,369)	(56,828)	(78,075)	(71,441)	(77,667)	(217,447)	(284,010)	(346,346)
Minorities	264	184	178	178	178	178	178	178	804	712	712
<b>Normalised net profit</b>	<b>225,485</b>	<b>250,393</b>	<b>325,258</b>	<b>374,172</b>	<b>322,202</b>	<b>333,026</b>	<b>405,008</b>	<b>440,289</b>	<b>1,172,761</b>	<b>1,500,525</b>	<b>1,829,804</b>
Extraordinary items	(0)	(2,547)	-	-	-	-	-	-	-	-	-
<b>Net profit</b>	<b>225,485</b>	<b>247,846</b>	<b>325,258</b>	<b>374,172</b>	<b>322,202</b>	<b>333,026</b>	<b>405,008</b>	<b>440,289</b>	<b>1,172,761</b>	<b>1,500,525</b>	<b>1,829,804</b>
EPS (NT\$)	8.70	9.56	12.54	14.43	12.43	12.84	15.62	16.98	45.23	57.87	70.57
<b>Margins (%)</b>											
Gross profit margin	53.1	53.2	57.8	58.5	55.4	56.7	58.9	58.2	56.0	57.4	58.4
Operating margin	42.0	42.9	47.5	48.0	45.2	46.5	48.8	48.1	45.4	47.3	48.3
EBITDA margin	68.9	67.4	71.1	66.3	66.2	67.3	68.2	65.1	68.3	66.7	64.5
Pretax profit margin	45.0	45.9	50.6	50.3	47.7	48.9	50.9	50.0	48.1	49.4	50.1
Net profit margin	38.0	36.8	42.8	43.5	40.5	39.6	43.2	42.5	40.6	41.6	42.1
<b>Sequential growth (%)</b>											
Revenue growth	(5.3)	13.6	12.8	13.3	(7.6)	5.8	11.4	10.6			
Gross profit growth	(5.2)	13.9	22.7	14.5	(12.5)	8.4	15.7	9.3			
Operating profit growth	(4.3)	16.1	24.8	14.4	(13.0)	8.9	16.7	9.1			
EBITDA growth	(0.7)	11.3	18.8	5.6	(7.8)	7.5	12.9	5.5			
Pretax profit growth	(4.2)	15.9	24.4	12.5	(12.4)	8.5	15.9	8.7			
Net profit growth	(5.5)	9.9	31.2	15.0	(13.9)	3.4	21.6	8.7			
<b>YoY growth (%)</b>											
Revenue growth	16.5	40.1	39.0	37.6	34.1	24.8	23.3	20.4	33.5	25.0	20.4
Gross profit growth	9.8	37.6	48.1	51.7	40.0	33.2	25.6	19.8	37.4	28.3	22.3
Operating profit growth	7.7	43.1	58.4	58.7	44.3	35.4	26.6	20.7	42.1	30.3	23.0
EBITDA growth	19.5	39.4	43.9	38.8	28.9	24.5	18.3	18.2	35.6	22.1	16.5
Pretax profit growth	9.1	43.9	59.0	55.4	42.1	33.0	24.0	19.8	42.0	28.4	22.0
Net profit growth	8.9	36.3	54.2	56.7	42.9	34.4	24.5	17.7	39.9	27.9	21.9

Source: Company data, KGI Research estimates

**Balance sheet**

NT\$mn	Dec-22A	Dec-23A	Dec-24F	Dec-25F	Dec-26F
<b>Total assets</b>	<b>4,964,779</b>	<b>5,532,371</b>	<b>6,551,819</b>	<b>7,623,876</b>	<b>9,020,200</b>
<b>Current assets</b>	<b>2,052,897</b>	<b>2,194,033</b>	<b>2,842,358</b>	<b>3,437,751</b>	<b>4,235,891</b>
Cash & ST securities	1,561,486	1,687,644	2,123,719	2,582,200	3,240,486
Inventory	221,149	250,997	319,925	387,812	446,802
Accounts receivable	231,340	201,938	338,393	407,418	488,281
Other current assets	38,922	53,453	60,321	60,321	60,321
<b>Non-current assets</b>	<b>2,911,882</b>	<b>3,338,338</b>	<b>3,709,460</b>	<b>4,186,125</b>	<b>4,784,309</b>
LT investments	68,928	129,442	142,980	147,780	152,580
Net fixed assets	2,693,837	3,064,475	3,421,854	3,893,718	4,487,102
Other assets	149,117	144,421	144,626	144,626	144,626
<b>Total liabilities</b>	<b>2,004,290</b>	<b>2,049,108</b>	<b>2,278,546</b>	<b>2,316,801</b>	<b>2,350,042</b>
<b>Current liabilities</b>	<b>944,227</b>	<b>913,583</b>	<b>1,165,246</b>	<b>1,203,500</b>	<b>1,236,741</b>
Accounts payable	56,522	57,293	89,692	108,725	125,263
Interest bearing ST liabilities	19,314	9,293	23,075	23,075	23,075
Other current liabilities	868,391	846,997	1,052,479	1,071,700	1,088,403
<b>Non-current liabilities</b>	<b>1,060,063</b>	<b>1,135,525</b>	<b>1,113,300</b>	<b>1,113,300</b>	<b>1,113,300</b>
Long-term debt	839,096	918,283	945,143	945,143	945,143
Other L-T liabilities	191,203	188,560	138,956	138,956	138,956
<b>Total equity</b>	<b>2,960,489</b>	<b>3,483,263</b>	<b>4,273,272</b>	<b>5,307,076</b>	<b>6,670,158</b>
Share capital	259,304	259,321	259,336	259,336	259,336
Retained earnings reserve	2,323,223	2,846,884	3,917,339	4,951,142	6,314,225
Minority interests	14,836	24,349	28,745	28,745	28,745
Preferred shareholders funds	-	-	-	-	-

**Key ratios**

	Dec-22A	Dec-23A	Dec-24F	Dec-25F	Dec-26F
<b>Growth</b>					
Revenue growth	42.6%	(4.5%)	33.5%	25.0%	20.4%
Operating profit growth	72.5%	(17.9%)	42.1%	30.3%	23.0%
EBITDA growth	45.3%	(6.8%)	35.6%	22.1%	16.5%
Net profit growth	70.4%	(17.5%)	39.9%	27.9%	21.9%
EPS growth	70.4%	(17.5%)	39.9%	27.9%	21.9%
<b>Profitability</b>					
Gross profit margin	59.6%	54.4%	56.0%	57.4%	58.4%
Operating margin	49.5%	42.6%	45.4%	47.3%	48.3%
EBITDA margin	68.8%	67.2%	68.3%	66.7%	64.5%
Net profit margin	44.9%	38.8%	40.6%	41.6%	42.1%
Return on average assets	23.4%	16.0%	19.4%	21.2%	22.0%
Return on average equity	39.8%	26.2%	30.4%	31.5%	30.7%
<b>Stability</b>					
Gross debt to equity	29.0%	26.6%	22.7%	18.2%	14.5%
Net debt to equity	Net cash	Net cash	Net cash	Net cash	Net cash
Interest coverage (x)	98.4	82.6	131.9	170.0	207.2
Interest & ST debt coverage (x)	1.0	1.0	1.0	1.0	1.0
Cash flow interest coverage(x)	137.1	103.5	168.5	198.6	229.6
Cash flow/int. & ST debt (x)	51.8	58.3	53.1	62.3	72.1
Current ratio (x)	2.2	2.4	2.4	2.9	3.4
Quick ratio (x)	1.9	2.1	2.2	2.5	3.1
Net debt (NT\$mn)	(484,404)	(537,852)	(905,992)	(1,364,473)	(2,022,760)
<b>Per share data</b>					
EPS (NT\$)	39.20	32.34	45.23	57.87	70.57
CFPS (NT\$)	62.12	47.90	68.95	80.84	93.45
BVPS (NT\$)	113.60	133.38	163.70	203.57	256.14
Adj BVPS (NT\$)	113.60	133.40	163.70	203.57	256.14
SPS (NT\$)	87.31	83.37	111.31	139.15	167.49
EBITDA/share (NT\$)	60.11	56.05	75.97	92.74	108.07
Cash DPS (NT\$)	11.00	13.00	16.00	18.00	18.00
<b>Activity</b>					
Sales / avg assets	0.52	0.41	0.48	0.51	0.52
Days receivable	37.3	34.1	42.9	41.2	41.0
Days inventory	88.2	92.9	92.1	92.1	90.2
Days payable	22.5	21.2	25.8	25.8	25.3
Cash cycle	102.9	105.8	109.2	107.5	105.9

Source: Company data, KGI Research estimates

**Profit & loss**

NT\$mn	Dec-22A	Dec-23A	Dec-24F	Dec-25F	Dec-26F
<b>Revenue</b>	<b>2,263,891</b>	<b>2,161,736</b>	<b>2,886,268</b>	<b>3,608,048</b>	<b>4,342,768</b>
Cost of goods sold	(915,536)	(986,625)	(1,271,127)	(1,536,199)	(1,808,353)
<b>Gross profit</b>	<b>1,348,355</b>	<b>1,175,111</b>	<b>1,615,141</b>	<b>2,071,848</b>	<b>2,534,416</b>
Operating expenses	(227,076)	(254,022)	(305,979)	(366,190)	(437,141)
<b>Operating profit</b>	<b>1,121,279</b>	<b>921,088</b>	<b>1,309,162</b>	<b>1,705,659</b>	<b>2,097,274</b>
<b>Non-operating income</b>	<b>31,168</b>	<b>65,429</b>	<b>90,882</b>	<b>88,717</b>	<b>88,717</b>
Interest income	22,422	60,294	83,922	83,917	83,917
Investment income	8,065	5,119	5,066	4,800	4,800
Other non-op income	681	16	1,894	-	-
<b>Non-operating expenses</b>	<b>(8,256)</b>	<b>(7,723)</b>	<b>(10,640)</b>	<b>(10,553)</b>	<b>(10,553)</b>
Interest expense	(11,750)	(11,999)	(10,613)	(10,553)	(10,553)
Investment loss	-	-	-	-	-
Other non-op expenses	3,494	4,276	(27)	-	-
<b>Pre-tax profit</b>	<b>1,144,191</b>	<b>978,794</b>	<b>1,389,404</b>	<b>1,783,823</b>	<b>2,175,439</b>
Current taxation	(127,290)	(141,404)	(217,447)	(284,010)	(346,346)
Minorities	(370)	730	804	712	712
Extraordinary items	-	377	-	-	-
<b>Net profit</b>	<b>1,016,530</b>	<b>838,498</b>	<b>1,172,761</b>	<b>1,500,525</b>	<b>1,829,804</b>
<b>EBITDA</b>	<b>1,558,533</b>	<b>1,453,279</b>	<b>1,969,923</b>	<b>2,404,770</b>	<b>2,802,074</b>
EPS (NT\$)	39.20	32.34	45.23	57.87	70.57

**Cash flow**

NT\$mn	Dec-22A	Dec-23A	Dec-24F	Dec-25F	Dec-26F
<b>Operations cash flow</b>	<b>1,610,599</b>	<b>1,241,967</b>	<b>1,787,933</b>	<b>2,096,179</b>	<b>2,423,191</b>
Net profit	1,016,530	838,498	1,172,761	1,500,525	1,829,804
Depreciation & amortisation	437,254	532,191	660,761	699,111	704,799
Decrease in working capital	(53,286)	324	(172,984)	(117,879)	(123,315)
Other operating cash flow	210,100	(129,046)	127,395	14,422	11,903
<b>Investing cash flow</b>	<b>(1,190,928)</b>	<b>(906,121)</b>	<b>(1,009,979)</b>	<b>(1,170,976)</b>	<b>(1,298,183)</b>
Sale of ST investment	(128,838)	(55,781)	(15,707)	-	-
New investments	-	-	-	-	-
Capital expenditure	(1,082,672)	(949,817)	(1,039,544)	(1,170,976)	(1,298,183)
Others investing cashflow	20,582	99,478	45,272	-	-
<b>Free cash flow</b>	<b>289,078</b>	<b>361,461</b>	<b>541,255</b>	<b>830,636</b>	<b>1,032,858</b>
<b>Financing cash flow</b>	<b>(200,244)</b>	<b>(204,894)</b>	<b>(408,236)</b>	<b>(466,721)</b>	<b>(466,721)</b>
Increase in short term debt	(111,960)	-	-	-	-
Increase in long term loans	195,983	68,204	40,642	-	-
New ordinary shares issued	-	-	-	-	-
Ordinary dividends paid	(285,234)	(291,722)	(414,865)	(466,721)	(466,721)
Other financing cashflow	1,839	18,623	(30,925)	-	-
<b>Forex effects</b>	<b>58,397</b>	<b>(8,339)</b>	<b>39,065</b>	<b>-</b>	<b>-</b>
<b>Total cash generated</b>	<b>277,824</b>	<b>122,614</b>	<b>408,782</b>	<b>458,481</b>	<b>658,287</b>

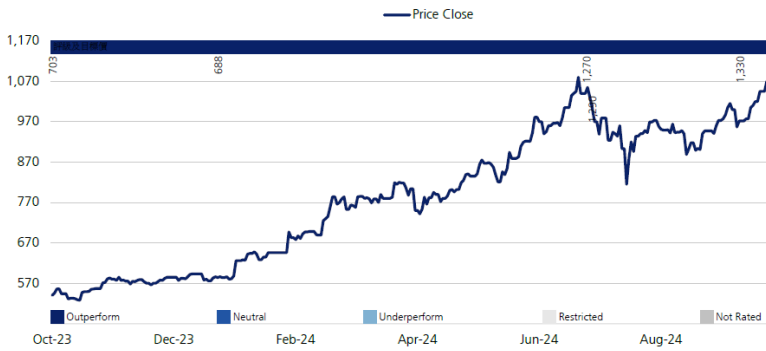
**ROIC**

	Dec-22A	Dec-23A	Dec-24F	Dec-25F	Dec-26F
1 - COGS/revenue					
- Operating exp./revenue	10.0%	11.8%	10.6%	10.1%	10.1%
<b>= Operating margin</b>	<b>49.5%</b>	<b>42.6%</b>	<b>45.4%</b>	<b>47.3%</b>	<b>48.3%</b>
1 / (Working capital/revenue	(0.2)	(0.2)	(0.1)	(0.1)	(0.1)
+ Net PPE/revenue	1.2	1.4	1.2	1.1	1.0
+ Other assets/revenue)	0.0	0.0	0.1	0.0	0.0
<b>= Capital turnover</b>	<b>1.0</b>	<b>0.8</b>	<b>0.9</b>	<b>1.0</b>	<b>1.0</b>
Operating margin	49.5%	42.6%	45.4%	47.3%	48.3%
x Capital turnover	1.0	0.8	0.9	1.0	1.0
x (1 - tax rate)	88.9%	85.6%	84.3%	84.1%	84.1%
<b>= After-tax ROIC</b>	<b>43.9%</b>	<b>29.4%</b>	<b>35.1%</b>	<b>38.6%</b>	<b>40.0%</b>

Source: Company data, KGI Research estimates



**TSMC – Recommendation & target price history**



Date	Rating	Target	Price
2024-10-01	Outperform	1,330	972
2024-08-21	Outperform	1,290	958
2024-07-18	Outperform	1,290	1,005
2024-07-15	Outperform	1,270	1,040
2024-01-18	Outperform	688	588
2024-01-10	Outperform	688	584
2023-10-19	Outperform	703	546
2023-10-06	Outperform	703	532
2023-07-20	Outperform	658	579
2023-07-04	Outperform	716	585

Source: TEJ, KGI Research

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