

TSMC (2330.TW/2330 TT)

Leading technological position intact

FTSE4Good TIP Taiwan ESG Index stock

Outperform · Maintained

Price as of November 27 (NT\$)	1,000
12M target price (NT\$)	1,450
Previous target price (NT\$)	1,450
Unchanged (%)	0.0
Upside (%)	45.0

Key message

- 1. Tight supply for CoWoS, N3, N4, & N5.
- 2. Apple's in-house modem could be new growth driver in 2025.
- 3. Upcycle continues.

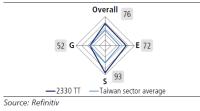
Trading data

induling data			
Mkt cap (NT\$bn/US\$n	25,933 / 79	9,780	
Outstanding shares (n	25,933		
Foreign ownership (m	19,128		
3M avg. daily trading	29.21		
52-week trading rang	e (NT\$)	566 -1,090	
Performance	3M	6M	12M
Absolute (%)	6.2	15.1	76.1
Relative (%)		12.7	45.8
Nelative (70)	5.5	12.7	45.0

Quarterly EPS

-				
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

ESG score card



Event

We expect 2025 to be another strong year for TSMC in anticipation of sales growth of 25% YoY, following a robust 33% YoY growth in 2024F. Growth is driven by: (1) strong AI demand; (2) opportunity from Apple (US) for its in-house modem; and (3) ongoing market share gains, particularly at Intel (US).

Impact

Tight supply for CoWoS, N3, N4, & N5. We expect the utilization rates of CoWoS, N3, N4, and N5 to remain high throughout the year, thanks to: (1) strong AI demand leading to strong N4 demand; (2) strong N3 demand due to Intel's Lunar Lake and Arrow Lake; and (3) Apple and mobile SoC migration to N3. Also, skyrocketing AI demand has driven rapid growth for both front-end business and back-end CoWoS. With several rounds of pricing adjustments due to capacity shortages, CoWoS gross margin is approaching TSMC's corporate average. In 2025, we expect TSMC's CoWoS to grow more than 100%, with Nvidia (US) continuing to be the primary contributor, not only for volume, but also as a key supporter for TSMC's price hikes.

Apple's in-house modem could be new growth driver in 2025. Currently, Qualcomm (US) is the sole supplier of 5G modems for Apple's iPhone, and the deal will last until 1Q27. Apple has never stopped developing its own 5G modem, which is expected to be utilized in the iPhone SE4 in 1H25. Thus, TSMC will likely get new business from Apple, including the 5G modem (N5) and RF (N6). If all goes smoothly, Apple will also utilize its in-house modem and RF in its forthcoming iPhone Slim in 2H25, which is expected to contribute US\$1.5-2.0bn in sales for TSMC in 2025.

Upcycle continues. TSMC remains positive on AI demand, and believes it is just at the beginning of the AI upcycle. Considering lukewarm non-AI demand recovery and the historical pattern of two years of expansion followed by two years of contraction, we expect the cycle to peak in 2025. However, TSMC continued to benefit from ongoing market share growth, particularly due to outsourced 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

TSMC remains our top pick in the semiconductor sector. Despite the possibility of escalating geopolitical tension causing share price fluctuations, this will not change TSMC's leading technological position for advanced nodes. Shares are trading at respective 2024-25F PE of 22x and 17x, versus the five-year average of 16x. We maintain Outperform and our target price of NT\$1,450, based on 25x 2025F EPS.

Risks

Global macro and geopolitical uncertainties; prolonged inventory correction.

Key financials and valuations

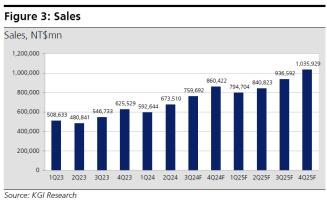
Dec-22A	Dec-23A	Dec-24F	Dec-25F	Dec-26F
2,263,891	2,161,736	2,886,268	3,608,048	4,342,768
1,348,355	1,175,111	1,615,141	2,071,848	2,534,416
1,121,279	921,088	1,309,162	1,705,659	2,097,274
1,016,530	838,498	1,172,761	1,500,525	1,829,804
39.20	32.34	45.23	57.87	70.57
11.00	13.00	16.00	18.00	18.00
70.4	(17.5)	39.9	27.9	21.9
25.5	30.9	22.1	17.3	14.2
8.8	7.5	6.1	4.9	3.9
16.0	16.9	12.3	10.0	8.3
Net cash	Net cash	Net cash	Net cash	Net cash
1.1	1.3	1.6	1.8	1.8
39.8	26.2	30.4	31.5	30.7
	2,263,891 1,348,355 1,121,279 1,016,530 39.20 11.00 70.4 25.5 8.8 16.0 Net cash 1.1	2,263,8912,161,7361,348,3551,175,1111,121,279921,0881,016,530838,49839.2032.3411.0013.0070.4(17.5)25.530.98.87.516.016.9Net cashNet cash1.11.339.826.2	2,263,8912,161,7362,886,2681,348,3551,175,1111,615,1411,121,279921,0881,309,1621,016,530838,4981,172,76139.2032.3445.2311.0013.0016.0070.4(17.5)39.925.530.922.18.87.56.116.016.912.3Net cashNet cashNet cash1.11.31.639.826.230.4	2,263,8912,161,7362,886,2683,608,0481,348,3551,175,1111,615,1412,071,8481,121,279921,0881,309,1621,705,6591,016,530838,4981,172,7611,500,52539.2032.3445.2357.8711.0013.0016.0018.0070.4(17.5)39.927.925.530.922.117.38.87.56.14.916.016.912.310.0Net cashNet cashNet cash1.11.31.61.839.826.230.431.5

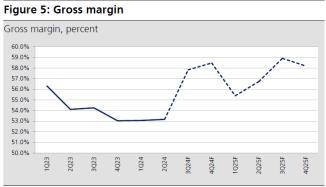


Figure 1: Company profile

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.

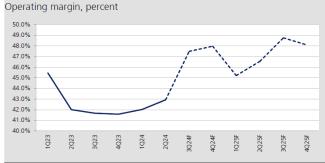
Source: Company data, KGI Research





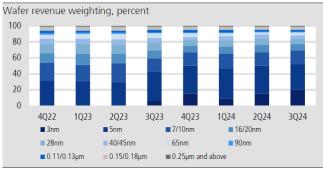
Source: KGI Research

Figure 7: Operating margin

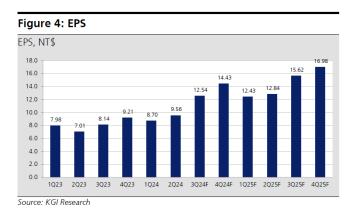


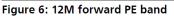
Source: KGI Research





Source: Company data, KGI Research





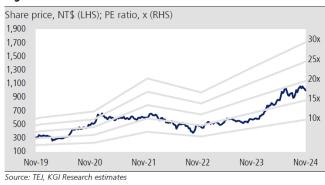


Figure 8: 12M forward PB band





ESG score, points

100

80

60

40

20

0

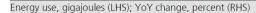
FY2009

Source: Refinitiv, Company data



Source: Refinitiv, Company data

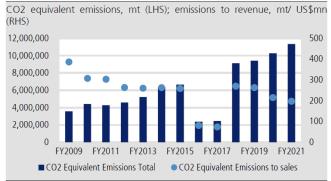
Figure 11: Energy use





Source: Refinitiv, Company data

Figure 13: CO2 equivalent emissions



Source: Refinitiv, Company data

Figure 15: Water use to revenue



Source: Refinitiv, Company data

Figure 12: Renewable energy

FY2011

-Environmental

FY2013

Figure 10: ESG score by category

Renewable energy purchased, gigajoules (LHS); renewable energy use ratio, percent (RHS)

FY2015

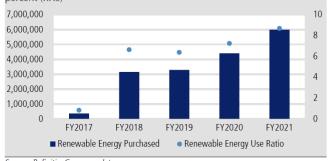
---Social

FY2017

-----Governance

FY2019

FY2021



Source: Refinitiv, Company data

Figure 14: Waste total

Waste total, mt (LHS); waste recycling ratio, percent (RHS)



Source: Refinitiv, Company data

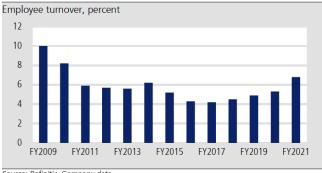
Figure 16: Environmental expenditures



Source: Refinitiv, Company data



Figure 17: Employee turnover



Source: Refinitiv, Company data

Figure 19: Employee training

Training cost per employee, US\$ (LHS);; average annual training hours per employee (RHS)



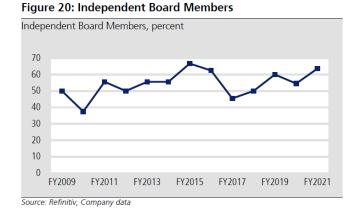
Source: Refinitiv, Company data

Figure 18: Gender diversification

Weighting of female managers & employees, percent



Source: Refinitiv, Company data





TSMC

Item	Definition Remarks	
	Total direct and indirect energy consumption in gigajoules.	
	- the total amount of energy that has been consumed within the boundaries of the company's operations	
	 total energy use = total direct energy consumption + indirect energy consumption 	
Energy use	- purchased energy and produced energy are included in total energy use	
	- 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)	
	- for utilities, raw materials such as coal, gas or nuclear used in the production of energy are not considered	
	under 'total energy use'	
	Total primary renewable energy purchased in gigajoules.	
Denouvable energy nurshaced	- energy consumed by the company from various sources and among the purchased energy, how much energy	
Renewable energy purchased	is renewable in nature (solar, wind, hydro, biomass, geothermal) are in scope - if there is no evidence that renewable energy is produced by the company, then we consider the reported	
	energy figure as renewable energy purchased	
Papawahla apargy usa ratio		
Renewable energy use ratio	Renewable energy to total energy used	
	Direct CO2 and CO2 equivalent emissions in metric tons.	
CO2 equivalent emissions	- direct emissions from sources that are owned or controlled by the company (scope 1 emissions)	
	 following gases are relevant: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCS), perfluorinated compound (PFCS), sulfur hexafluoride (SF6), nitrogen trifluoride (NF3) 	
(0) equivalent emissions to	Direct CO2 and CO2 equivalent emissions (metric tons) to sales (NT\$mn) - direct emissions from sources that are owned or controlled by the company (scope 1 emissions)	
CO2 equivalent emissions to sales	 - direct emissions from sources that are owned or controlled by the company (scope 1 emissions) - following gases are relevant: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons 	
Saits	- following gases are relevant: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofiluorocarbons (HFCS), perfluorinated compound (PFCS), sulfur hexafluoride (SF6), nitrogen trifluoride (NF3)	
	Total amount of waste produced in metric tons. - total waste = non-hazardous waste + hazardous waste	
	 total waste = non-nazardous waste + nazardous waste only solid waste is taken into consideration, exceptionally if liquid waste is reported in metric tons, then we 	
Waste total	do the summation to derive total including liquid waste	
	- for sectors like mining, oil & gas, waste generation like tailings, waste rock, coal and fly ash are also	
	considered	
	The waste recycling ratio as reported by the company. - waste recycling ratio = waste recycled/total waste*100	
Waste recycling ratio	- waste to energy or waste incinerated with energy recovery are considered as waste recycled	
	- waste recovered via composting is considered as recycled waste	
	Total water withdrawal in cubic meters.	
	- the total volume of water withdrawn from any water source that was either withdrawn directly by the	
Water withdrawal total	reporting organization or through intermediaries such as water utilities	
	- different sources of water like wells, town/utility/municipal water, river water, and surface water are	
	considered	
	Total amount of environmental expenditures.	
Environmental evpenditures	- all environmental investment & expenditures for environmental protection or to prevent, reduce, control	
Environmental expenditures	environmental aspects, impacts, and hazards. It also includes disposal, treatment, sanitation, and clean-up	
	expenditures	
	Percentage of employee turnover.	
	- 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	
Turnover of employees	- employees turnover rate = (employees leaving/average number of employees)*100	
	- where the average number of employees = (employees at the end of the current year + employees at the end of the number of the	
	of the previous year)/2	
	- employees at the end of the current fiscal year = employees at the end of the previous fiscal year + new	
	employees - employees leaving	
	Percentage of women managers.	
Nomon managers	 percentage of women managers among total managers of the company if there is a breakdown by estergen in percentage, such as ten, senior, middle, and junier management, then 	
Women managers	 - 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 	
	 percentage of women managers = number of women managers/total number of managers*100 	
Women employees	Percentage of women employees. - percentage of women employees to the total number of employees of the company	
women employees	 percentage of women employees to the total number of employees of the company percentage of women employees = number of women/total number of employees*100 	
	Total training hours performed by all employees.	
Training hours total	- consider only employee training hours includes all times of training given to general employees (such as health & safety, environmental, emergency,	
Training hours total	- includes all types of training given to general employees (such as health & safety, environmental, emergency	
	response, skills & career development training) - if the value is given in days, multiply by 8, assuming that 1 day = 8 hours worked	
	- in the value is given in days, multiply by σ , assuming that i ddy = σ multis worked	

Source: Refinitiv, KGI Research



Incom	ie s	tate	men	t

	Quarterly								Annually		
	Mar-24A	Jun-24A	Sep-24F	Dec-24F	Mar-25F	Jun-25F	Sep-25F	Dec-25F	Dec-24F	Dec-25F	Dec-26F
Income statement (NT\$mn)											
Revenue	592,644	673,510	759,692	860,422	794,704	840,823	936,592	1,035,929	2,886,268	3,608,048	4,342,768
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)
Gross profit	314,505	358,124	439,345	503,167	440,212	476,978	551,793	602,865	1,615,141	2,071,848	2,534,416
Operating expenses	(65,487)	(69,022)	(78,579)	(90,344)	(80,901)	(85,596)	(95,064)	(104,629)	(305,979)	(366,190)	(437,141)
Operating profit	249,018	289,103	360,766	412,822	359,311	391,382	456,729	498,237	1,309,162	1,705,659	2,097,274
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)
EBITDA	408,041	454,269	539,862	570,297	526,000	565,627	638,861	674,281	1,969,923	2,404,770	2,802,074
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	-	-
Non-operating income	20,309	22,335	26,059	22,179	22,179	22,179	22,179	22,179	90,882	88,717	88,717
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)	-	-
Non-operating expenses	(2,784)	(2,580)	(2,638)	(2,638)	(2,638)	(2,638)	(2,638)	(2,638)	(10,640)	(10,553)	(10,553)
Pre-tax profit	266,543	308,858	384,187	432,363	378,852	410,923	476,270	517,778	1,389,404	1,783,823	2,175,439
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
Normalised net profit	225,485	250,393	325,258	374,172	322,202	333,026	405,008	440,289	1,172,761	1,500,525	1,829,804
Extraordinary items	(0)	(2,547)			-	-	-	-	-	-	-
Net profit	225,485	247,846	325,258	374,172	322,202	333,026	405,008	440,289	1,172,761	1,500,525	1,829,804
EPS (NT\$)	8.70	9.56	12.54	14.43	12.43	12.84	15.62	16.98	45.23	57.87	70.57
Margins (%)											
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
Sequential growth (%)											
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			
YoY growth (%)	(0.0)	0.0	5112	1010	(13.3)	5.1	2110	0.7			
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	20.4
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
											10.5
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

Source: Company data, KGI Research estimates



Taiwan

TSMC

0.01

Balance sheet					
NTSmn	Dec-22A	Dec-23A	Dec-24F	Dec-25F	Dec-26
Total assets	4,964,779	5,532,371	6,551,819	7,623,876	9,020,200
Current assets Cash & ST securities	2,052,897	2,194,033 1,687,644	2,842,358 2,123,719	3,437,751	4,235,891 3,240,486
	1,561,486			2,582,200	3,240,480
Inventory Accounts receivable	221,149 231,340	250,997 201,938	319,925 338,393	387,812 407,418	440,802
Other current assets	38,922	53,453	60,321	60,321	60,321
Non-current assets	2.911.882	3,338,338	3.709.460	4.186.125	4,784,309
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
Total liabilities	2,004,290	2,049,108	2,278,546	2,316,801	2,350,042
Current liabilities	944,227	913,583	1,165,246	1,203,500	1,236,741
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
Non-current liabilities	1,060,063	1,135,525	1,113,300	1,113,300	1,113,300
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
Total equity	2,960,489	3,483,263	4,273,272	5,307,076	6,670,158
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	-	-	-	-	-
Kana and a s					
Key ratios	Dec-22A	Dec-23A	Dec-24F	Dec-25F	Dec-26
Growth	Dec-22A	Dec-25A	Dec-241	Dec-25i	Dec-20
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%
Profitability					
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%
Stability					
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 cas
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)	(484,404)	2.1	2.2	2.5	3.1
Net debt (NT\$mn) Per share data	(484,404)	(537,852)	(905,992)	(1,364,473)	(2,022,760
EPS (NT\$)	39.20	32.34	45.23	57.87	70.57
CFPS (NT\$)	62.12	47.90	45.23 68.95	57.87 80.84	93.45
BVPS (NT\$)	113.60	133.38	163.70	203.57	256.14
Adj BVPS (NT\$)	113.60	133.30	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
Activity		.5.50			.5.00
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

Profit & loss					
NTSmn	Dec-22A	Dec-23A	Dec-24F	Dec-25F	Dec-26F
Revenue	2,263,891	2,161,736	2,886,268	3,608,048	4,342,768
Cost of goods sold	(915,536)	(986,625)	(1,271,127)	(1,536,199)	(1,808,353)
Gross profit	1,348,355	1,175,111	1,615,141	2,071,848	2,534,416
Operating expenses	(227,076)	(254,022)	(305,979)	(366,190)	(437,141)
Operating profit	1,121,279	921,088	1,309,162	1,705,659	2,097,274
Non-operating income	31,168	65,429	90,882	88,717	88,717
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	·	· -
Non-operating expenses	(8,256)	(7,723)	(10,640)	(10,553)	(10,553)
Interest expense	(11,750)	(11,999)	(10,613)	(10,553)	(10,553)
Investment loss	-	-	-	-	-
Other non-op expenses	3,494	4,276	(27)	-	-
Pre-tax profit	1,144,191	978,794	1,389,404	1,783,823	2,175,439
Current taxation	(127,290)	(141,404)	(217,447)	(284,010)	(346,346)
Minorities	(370)	730	804	(204,010)	712
Extraordinary items	(570)	377		/12	/12
Net profit	1,016,530	838,498	1,172,761	1,500,525	1,829,804
EBITDA	1,558,533	1,453,279	1,969,923	2,404,770	2,802,074
EPS (NT\$)	39.20	32.34	45.23	57.87	70.57
Cash flow					
NTSmn	Dec-22A	Dec-23A	Dec-24F	Dec-25F	Dec-26F
Operations cash flow	1,610,599	1,241,967	1,787,933	2,096,179	2,423,191
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
Investing cash flow	(1,190,928)	(906,121)	(1,009,979)	(1,170,976)	(1,298,183)
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	-	-
Free cash flow	289,078	361,461	541,255	830,636	1,032,858
Financing cash flow	(200,244)	(204,894)	(408,236)	(466,721)	(466,721)
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)	-	-
Forex effects	58,397	(8,339)	39,065	-	-
Total cash generated	277,824	122,614	408,782	458,481	658,287
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%
= Operating margin	49.5%	42.6%	45.4%	47.3%	48.3%
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
= Capital turnover	1.0	0.8	0.9	1.0	1.0
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) = After-tax ROIC	88.9% 43.9 %	85.6% 29.4%	84.3% 35.1%	84.1% 38.6%	84.1% 40.0%

Source: Company data, KGI Research estimates

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