

February 8, 2023 03:55 PM GMT

## AirTAC International | Asia Pacific

## Upcycle Scenario Largely Priced in

📈 Stock Rating  
Equal-weight

📊 Industry View  
In-Line

🎯 Price Target  
NT\$1,100.00

China's reopening will be positive to AirTAC's business and the sentiment toward the group, but the current valuation has largely priced in the optimistic scenario, in our view. Stay EW.

**4Q22 operating profit in line with expectations:** AirTAC's 4Q22 revenue of NT\$6,265mn (+3% QoQ/+9% YoY) was known to the market. Operating margin of 29.3% (+1.3ppt QoQ) was largely in line with our estimate of 29.0% and the consensus of 29.6%. However, dragged by non-operating losses of NT\$77mn (mainly due to FX losses of NT\$60mn), net profit came in at NT\$1,342mn (EPS of NT\$6.71) 5% below our and consensus estimates.

**Double-digit revenue growth and over 30% operating margin for 2023:** 1)

Management now guides for 2023 revenue to be up by double digits YoY with its pneumatic business to be up 10% YoY (vs. the industry at single digits YoY growth) and incremental contribution from the linear guide business (revenue contribution up to 9% in 2023 vs. 3% in 2022). 2) It also guided for the operating margin to be over 30% (vs. 28.9% in 2022), which is in line with our and consensus estimates. 3) By end application, battery, energy and lighting, automobile and electronics should be the major drivers. 4) Inventories are now at the normal level of 160 days and its utilization increased from 90% in 3Q22 to 100% in 4Q22 and rise further to 110% in the coming months to prepare for peak season demand.

**Linear guide business update:** AirTAC booked just Rmb180mn of revenue in 2022 for its linear guide business, and management guided for revenue to reach Rmb600mn with a gross margin of ~40%, still lower than corporate average of 45-50%. In the long term, management remains confident in the growth opportunities from its linear guide business, as AirTAC plans to leverage its relationship with existing pneumatic customers and distribution network in the China market, targeting to expand its market share to 30-40% in eight to 10 years, when the market size is estimated to be Rmb15-20bn.

**Stay EW with PT new NT\$1,100:** We believe that China's reopening should point to a better demand outlook for relevant stocks with higher revenue exposure to China, and Airtac's 2023 guidance implies an upcycle scenario for the company. However, we think its current 30x 2023e P/E seems to have largely priced in this optimistic scenario, leaving not much upside from here. We thus stay EW with a PT of NT\$1,100 (NT\$1,050; 31x 2023 P/E).

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## AirTAC International ( 1590.TW, 1590 TT )

Greater China Technology Hardware / Taiwan

Stock Rating	Equal-weight
Industry View	In-Line
Price target	NT\$1,100.00
Up/downside to price target (%)	0
Shr price, close (Feb 8, 2023)	NT\$1,095.00
52-Week Range	NT\$1,110.00-642.00
Sh out, dil, curr (mn)	200
Mkt cap, curr (mn)	US\$7,308
EV, curr (mn)	US\$7,374
Avg daily trading value (mn)	US\$18

Fiscal Year Ending	12/21	12/22e	12/23e	12/24e
ModelWare EPS (NT\$)	32.21	30.07	35.87	42.07
Prior ModelWare EPS (NT\$)	-	30.38	34.88	40.38
EPS (NT\$)§	32.07	30.94	35.30	42.31
Revenue, net (NT\$ mn)	25,400	26,073	29,772	34,312
EBITDA (NT\$ mn)	9,943	9,377	11,046	12,726
ModelWare net inc (NT\$ mn)	6,442	6,013	7,173	8,415
P/E	31.7	31.0	30.5	26.0
P/BV	5.8	4.8	5.0	4.4
RNOA (%)	19.7	15.2	17.3	19.3
ROE (%)	28.6	17.1	18.6	19.3
EV/EBITDA	20.8	20.1	19.7	16.9
Div yld (%)	0.8	1.2	1.0	1.1
FCF yld ratio (%)	0.2	1.7	2.2	2.5
Leverage (EOP) (%)	8.3	5.1	(2.2)	(8.2)

Unless otherwise noted, all metrics are based on Morgan Stanley ModelWare framework

§ = Consensus data is provided by Refinitiv Estimates

e = Morgan Stanley Research estimates

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## Results Summary

Exhibit 1: AirTAC: 4Q22 results summary

NT\$m	4Q22E Results			MS estimates	Variance	Consensus	Variance
	Actual	QoQ	YoY				
Net sales	6,265	3%	9%	6,265	0%	6,370	-2%
COGS	-3,360	3%	10%	-3,399	-1%	-3,406	-1%
Gross profit	2,905	3%	7%	2,866	1%	2,964	-2%
Operating expenses	-1,069	-4%	16%	-1,048	2%	-1,080	-1%
Operating income	1,836	8%	2%	1,817	1%	1,884	-3%
Non-operating income	-77	NM	NM	20	-486%	-52	48%
Pre-tax income	1,759	-2%	-15%	1,837	-4%	1,832	-4%
Net Income	1,342	-4%	-16%	1,406	-5%	1,413	-5%
EPS (NT\$)	6.71	-4%	-16%	7.03	-5%	7.07	-5%
Margins (%)		ppt	ppt		ppt		ppt
Gross margin	46.4%	0.1	-0.9	45.7%	0.6	46.5%	-0.2
Operating margin	29.3%	1.3	-1.9	29.0%	0.3	29.6%	-0.3
Pre-tax margin	28.1%	-1.6	-7.7	29.3%	-1.3	28.8%	-0.7
Net margin	21.4%	-1.5	-6.4	22.4%	-1.0	22.2%	-0.8

Source: Company data, Refinitiv, Morgan Stanley Research estimates

## Quarterly Financial Summary

Exhibit 2: AirTAC: Quarterly financial summary

NT\$ mn	1Q22	2Q22	3Q22	4Q22E	1Q23E	2Q23E	3Q23E	4Q23E	2021	2022E	2023E
<b>Net sales</b>	<b>6,509</b>	<b>7,222</b>	<b>6,077</b>	<b>6,265</b>	<b>6,627</b>	<b>7,910</b>	<b>7,849</b>	<b>7,385</b>	<b>25,400</b>	<b>26,073</b>	<b>29,772</b>
COGS	-3,701	-3,856	-3,263	-3,360	-3,542	-4,166	-4,190	-3,982	-13,063	-14,180	-15,880
<b>Gross profit</b>	<b>2,808</b>	<b>3,366</b>	<b>2,814</b>	<b>2,905</b>	<b>3,086</b>	<b>3,745</b>	<b>3,660</b>	<b>3,403</b>	<b>12,337</b>	<b>11,893</b>	<b>13,892</b>
Operating expenses	-997	-1,174	-1,111	-1,069	-1,113	-1,213	-1,236	-1,153	-4,121	-4,351	-4,716
SG&A, R&D exp.	-997	-1,174	-1,111	-1,069	-1,113	-1,213	-1,236	-1,153	-4,121	-4,351	-4,716
<b>Operating income</b>	<b>1,811</b>	<b>2,192</b>	<b>1,703</b>	<b>1,836</b>	<b>1,972</b>	<b>2,532</b>	<b>2,423</b>	<b>2,250</b>	<b>8,216</b>	<b>7,542</b>	<b>9,177</b>
<b>Non-operating income</b>	<b>380</b>	<b>-120</b>	<b>99</b>	<b>-77</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>168</b>	<b>282</b>	<b>200</b>
Interest income	-11	-8	-5	-26	0	0	0	0	-82	-49	0
Investment income	0	0	0	0	0	0	0	0	0	0	0
Disposal of investment	0	0	0	0	0	0	0	0	0	0	0
Exchange gain	197	-37	89	-60	0	0	0	0	-22	189	0
Others	193	-75	15	9	50	50	50	50	272	142	200
<b>Pre-tax income</b>	<b>2,191</b>	<b>2,072</b>	<b>1,802</b>	<b>1,759</b>	<b>2,022</b>	<b>2,582</b>	<b>2,473</b>	<b>2,300</b>	<b>8,384</b>	<b>7,824</b>	<b>9,377</b>
Income tax	-513	-470	-411	-417	-475	-607	-581	-540	-1,943	-1,811	-2,204
Minority interest	0	0	0	0	0	0	0	0	1	0	0
<b>Net income</b>	<b>1,678</b>	<b>1,602</b>	<b>1,391</b>	<b>1,342</b>	<b>1,547</b>	<b>1,975</b>	<b>1,892</b>	<b>1,759</b>	<b>6,442</b>	<b>6,013</b>	<b>7,173</b>
Adj. wtd. avg. shrs (mn)	200	200	200	200	200	200	200	200	200	200	200
<b>EPS (NT\$)</b>	<b>8.39</b>	<b>8.01</b>	<b>6.96</b>	<b>6.71</b>	<b>7.73</b>	<b>9.87</b>	<b>9.46</b>	<b>8.80</b>	<b>32.21</b>	<b>30.07</b>	<b>35.87</b>
Fully diluted shares (mn)	200	200	200	200	200	200	200	200	200	200	200
<b>Diluted EPS (NT\$)</b>	<b>8.39</b>	<b>8.01</b>	<b>6.96</b>	<b>6.71</b>	<b>7.73</b>	<b>9.87</b>	<b>9.46</b>	<b>8.80</b>	<b>32.21</b>	<b>30.07</b>	<b>35.87</b>
<b>Margins (%)</b>											
Gross Margin	43.1	46.6	46.3	46.4	46.6	47.3	46.6	46.1	48.6	45.6	46.7
Operating Margin	27.8	30.4	28.0	29.3	29.8	32.0	30.9	30.5	32.3	28.9	30.8
Pretax Margin	33.7	28.7	29.7	28.1	30.5	32.6	31.5	31.1	33.0	30.0	31.5
Net Margin	25.8	22.2	22.9	21.4	23.3	25.0	24.1	23.8	25.4	23.1	24.1
<b>QoQ Growth (%)</b>											
Sales	13	11	-16	3	6	19	-1	-6			
Gross Profit	3	20	-16	3	6	21	-2	-7			
Operating Profit	1	21	-22	8	7	28	-4	-7			
Pretax Profit	6	-5	-13	-2	15	28	-4	-7			
Net Profit	5	-5	-13	-4	15	28	-4	-7			
<b>YoY Growth (%)</b>											
Sales	10	3	-9	9	2	10	29	18	33	3	14
Gross Profit	-2	-3	-14	7	10	11	30	17	31	(4)	17
Operating Profit	-8	-9	-16	2	9	15	42	23	38	(8)	22
Pretax Profit	14	-11	-13	-15	-8	25	37	31	32	(7)	20
Net Profit	16	-10	-13	-16	-8	23	36	31	33	(7)	19

Source: Company data, Morgan Stanley Research (E) estimates

## Financial Summary

Exhibit 3: AirTAC: Financial summary

## Consolidated Income Statement

NT\$ mn (Year End Dec 31)	2021	2022E	2023E	2024E
<b>Net sales</b>	<b>25,400</b>	<b>26,073</b>	<b>29,772</b>	<b>34,312</b>
COGS	-13,063	-14,180	-15,880	-18,123
<b>Gross profit</b>	<b>12,337</b>	<b>11,893</b>	<b>13,892</b>	<b>16,189</b>
Operating expenses	-4,121	-4,351	-4,716	-5,389
<b>Operating income</b>	<b>8,216</b>	<b>7,542</b>	<b>9,177</b>	<b>10,800</b>
<b>Non-operating income</b>	<b>168</b>	<b>282</b>	<b>200</b>	<b>200</b>
Interest income	-82	-49	0	0
Investment income	0	0	0	0
Disposal of investment	0	0	0	0
Exchange gain	-22	189	0	0
Others	272	142	200	200
<b>Pre-tax income</b>	<b>8,384</b>	<b>7,824</b>	<b>9,377</b>	<b>11,000</b>
Income tax	-1,943	-1,811	-2,204	-2,585
Minority interests	1	0	0	0
<b>Net income</b>	<b>6,442</b>	<b>6,013</b>	<b>7,173</b>	<b>8,415</b>
Adj. wtd. Avg. shrs (m)	200	200	200	200
<b>Reported EPS (NT\$)</b>	<b>32.21</b>	<b>30.07</b>	<b>35.87</b>	<b>42.07</b>
Diluted shrs (m)	200	200	200	200
<b>Diluted EPS (NT\$)</b>	<b>32.21</b>	<b>30.07</b>	<b>35.87</b>	<b>42.07</b>

## Consolidated Balance Sheet

NT\$ mn (Year End Dec 31)	2021	2022E	2023E	2024E
<b>Cash</b>	<b>4,374</b>	<b>5,330</b>	<b>8,251</b>	<b>11,343</b>
Mkt securities	1,848	1,848	1,848	1,848
AR/NR	7,483	9,256	10,569	12,181
Inventory	5,302	5,672	6,352	7,249
Others	307	782	893	1,029
<b>Current Assets</b>	<b>19,314</b>	<b>22,888</b>	<b>27,913</b>	<b>33,650</b>
Long-term investments	-	-	-	-
Fixed assets	24,467	24,926	25,676	26,770
Other assets	3,898	3,898	3,898	3,898
<b>Total Assets</b>	<b>47,679</b>	<b>51,712</b>	<b>57,488</b>	<b>64,319</b>
S/T borrowings	4,479	4,479	4,479	4,479
AP/NP	1,303	1,560	1,747	1,994
Other ST liabilities	3,437	3,731	4,178	4,769
<b>Total Current Liabilities</b>	<b>9,219</b>	<b>9,770</b>	<b>10,404</b>	<b>11,241</b>
L/T debt	2,806	2,806	2,806	2,806
Other LT liabilities	502	515	588	678
<b>Total Liabilities</b>	<b>12,527</b>	<b>13,091</b>	<b>13,798</b>	<b>14,725</b>
Common shares	2,000	2,000	2,000	2,000
Retained Earnings	18,298	21,868	26,936	32,841
Other SH' Equity	14,854	14,753	14,753	14,753
<b>Total Shareholders' Equity</b>	<b>35,152</b>	<b>38,621</b>	<b>43,689</b>	<b>49,594</b>
<b>Total Liab./SH's Equity</b>	<b>47,679</b>	<b>51,712</b>	<b>57,488</b>	<b>64,319</b>

## Consolidated Cash Flow Statement

NT\$ mn (Year End Dec 31)	2021	2022E	2023E	2024E
<b>Operating Cashflow</b>	<b>6,320</b>	<b>5,781</b>	<b>7,573</b>	<b>8,532</b>
Net Profits	6,442	6,013	7,173	8,415
Depreciation & Amort.	1,727	1,835	1,869	1,926
Investment losses/(income)	0	0	0	0
Working capital change	-1,783	-1,593	-1,359	-1,672
Other adjustments	-66	-475	-111	-136
<b>Investing Cashflow</b>	<b>-5,492</b>	<b>-2,294</b>	<b>-2,620</b>	<b>-3,019</b>
Capex	-5,164	-2,347	-2,679	-3,088
Change of L/T investment	0	0	0	0
Change of S/T investment	131	0	0	0
Other adjustments	-495	0	0	0
<b>Financing Cashflow</b>	<b>-794</b>	<b>-2,342</b>	<b>-2,032</b>	<b>-2,421</b>
Increase in L/T debt	-767	0	0	0
Increase in S/T debt	-6,112	0	0	0
Issuance of stock	7,873	0	0	0
Cash dividends	-1,712	-2,255	-2,105	-2,511
Other adjustments	-76	-88	73	90
FX adjustment	-20	-189	0	0
<b>Net change in cash</b>	<b>14</b>	<b>955</b>	<b>2,921</b>	<b>3,092</b>

## Consolidated Financial Ratios

	2021	2022E	2023E	2024E
<b>Margins (%)</b>				
Gross margin	48.6	45.6	46.7	47.2
Operating margin	32.3	28.9	30.8	31.5
Pretax margin	33.0	30.0	31.5	32.1
Net margin	25.4	23.1	24.1	24.5
<b>YoY growth (%)</b>				
Sales	33.0	2.7	14.2	15.3
Operating profits	37.8	(8.2)	21.7	17.7
Pretax profits	32.2	(6.7)	19.8	17.3
Net profits	33.0	(6.7)	19.3	17.3
<b>Others</b>				
Cash dividend payout (%)	35	35	35	35
Cash div (NT\$)	11.3	10.5	12.6	14.7
Yield (%)	2	2	2	2
Net Debt/Equity (%)	3	0	(6)	(12)
Liabilities/Equity (%)	36	34	32	30
Liabilities/Assets (%)	26	25	24	23
ROAE (%)	22	16	17	18
ROAA (%)	14	12	13	14
AR/NR Turnover (days)	105	117	122	121
Inventory Turnover (days)	125	141	138	137
AP/NP Turnover (days)	32	37	38	38
Cash conversion cycle	197	222	222	220

Source: Company data, Morgan Stanley Research. E=Morgan Stanley Research estimates.

## Estimate Revisions

**We fine-tune our 2022-24 earnings estimates by -1%, 3% and 4%, respectively:** We factor in 4Q22 results and our slightly stronger revenue assumptions.

**Exhibit 4:** AirTAC: Estimate revisions

Consolidated basis									
Year to Dec. 31	2022E			2023E			2024E		
NT\$ mn	New	Old	% diff	New	Old	% diff	New	Old	% diff
<b>P&amp;L Summary</b>									
Net sales	26,073	26,073	0%	29,772	28,996	3%	34,312	32,495	6%
COGS	-14,180	-14,219		-15,880	-15,491		-18,123	-17,076	
Gross profit	11,893	11,854	0%	13,892	13,505	3%	16,189	15,419	5%
Operating expenses	-4,351	-4,330		-4,716	-4,585		-5,389	-5,061	
Operating income	7,542	7,524	0%	9,177	8,920	3%	10,800	10,358	4%
Non-operating income	282	379		200	200		200	200	
Pre-tax income	7,824	7,903	-1%	9,377	9,120	3%	11,000	10,558	4%
Income tax	-1,811	-1,826		-2,204	-2,143		-2,585	-2,481	
Minority interest	0	0		0	0		0	0	
Net income	6,013	6,077	-1%	7,173	6,977	3%	8,415	8,077	4%
Diluted EPS (NT\$)	30.07	30.38	-1%	35.87	34.88	3%	42.07	40.38	4%
<b>Margins</b>									
Gross margin	45.6%	45.5%		46.7%	46.6%		47.2%	47.5%	
Operating margin	28.9%	28.9%		30.8%	30.8%		31.5%	31.9%	
Pretax margin	30.0%	30.3%		31.5%	31.5%		32.1%	32.5%	
Net margin	23.1%	23.3%		24.1%	24.1%		24.5%	24.9%	

Source: Company data, Morgan Stanley Research (E) estimates.

## Valuation Methodology

**Our price target is NT\$1,100 (+5%):** This is our base-case value, derived by applying a target P/E multiple of 31x (previously 30x 2023e P/E) to our 2023 EPS estimate. We raise our target multiple slightly as we now expect 2023-24 operating margins to rebound to 31-32%.

Since 2011, the forward P/E multiple has ranged from 12x to 40x, which we view as consistent with business cycles. We believe operating margin is a good indicator of the cycle, because it is highly dependent on operating leverage. Historically, when AirTAC has generated over 30% operating margin, the stock has traded up to peak-cycle valuations of 30-40x P/E.

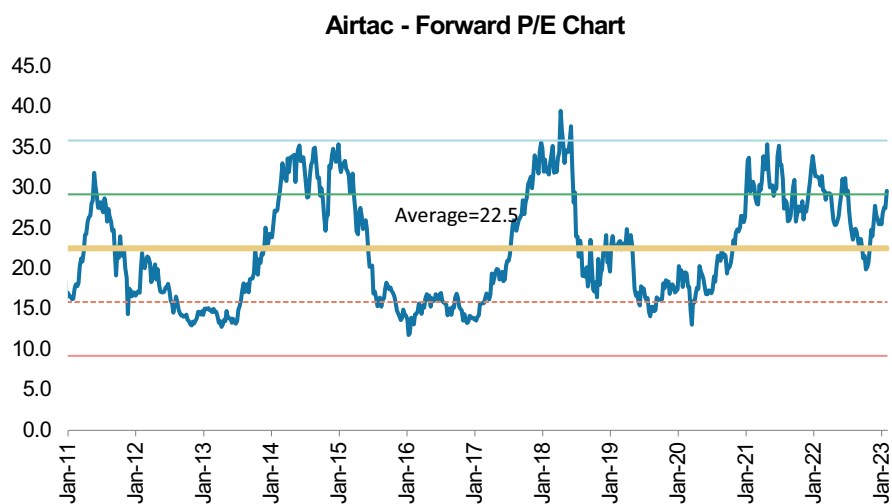
We now project the operating margin reaching 31-32% in 2023-24, similar to the range of past upcycles. We therefore view our in-line peak cycle valuation target multiple as reasonable.

**Bull-case scenario value – NT\$1,450 (+12%):** We apply a 40x P/E multiple (previously 37x 2023e P/E) to our 2023 EPS estimate. This scenario mainly reflects stronger-than-expected pneumatic component demand, driving more earnings upside in 2023 and 2024.

**Bear-case scenario value – NT\$620 (+3%):** We apply a 17x P/E multiple (previously 17x 2023e P/E) to our 2023 EPS estimate. This scenario mainly factors in a weaker-than-expected macro environment, affecting capital expenditure across different sectors and

reducing overall demand for pneumatic components.

**Exhibit 5:** AirTAC: One-year forward P/E



Source: Company data, Morgan Stanley Research estimates

## Risk Reward – AirTAC International (1590.TW)

China Reopening Largely Priced in

## PRICE TARGET NT\$1,100.00

Base case, 31x 2023e P/E. We believe this methodology better captures earnings growth momentum for industrial automation component plays (market sentiment moves along with business cycles). Operating margin is a good indicator of the cycle, as it is highly dependent on operating leverage. Our 2023-24 operating margin forecasts of 31-32% are in line with past up-cycles. Therefore, we find our peak cycle valuation reasonable.

## Consensus Price Target Distribution

NT\$554.00

NT\$953.50

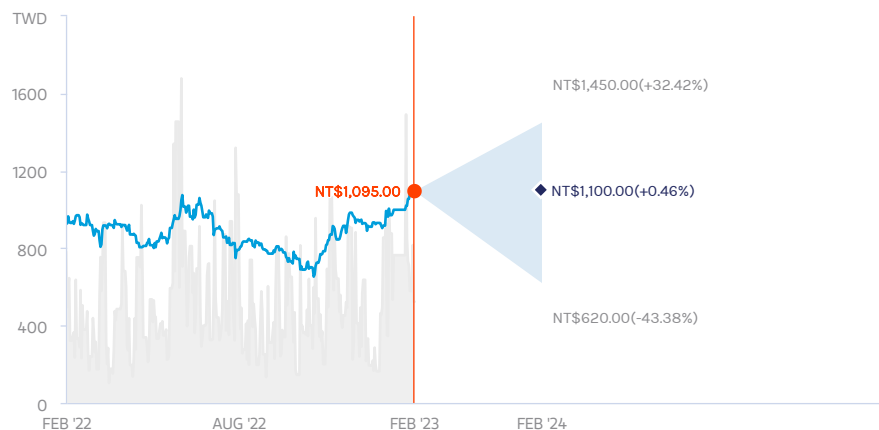
MS PT

NT\$1,320.00

◆ Mean ◆ Morgan Stanley Estimates

Source: Refinitiv, Morgan Stanley Research

## RISK REWARD CHART



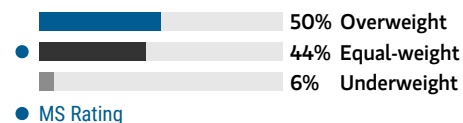
Key: — Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Refinitiv, Morgan Stanley Research

## EQUAL-WEIGHT THESIS

- We expect China reopening to boost industrial automation capex sentiment over mid to long term, despite near-term disruption to supply chains amid surging Covid cases.
- However, we believe the current valuation (close to upcycle valuation) has priced in the optimistic scenario.
- We keep our EW rating on the stock.

## Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

## Risk Reward Themes

Electric Vehicles: *Positive*  
Market Share: *Positive*

View descriptions of Risk Rewards Themes [here](#)

## BULL CASE

NT\$1,450.00

40x 2023e base case EPS

**Stronger-than-expected pneumatic component demand:** This drives more earnings upside in 2023-24.

## BASE CASE

NT\$1,100.00

31x 2023e base case EPS

**Revenue growth and slight margins expansion:** Teens revenue growth amid China's reopening, leading to slight margin expansion.

## BEAR CASE

NT\$620.00

17x 2023e base case EPS

**Macro headwinds leading to weaker demand:** Weaker-than-expected macro environment affects capital expenditures across different sectors and reduces overall demand for pneumatic components.

## Risk Reward – AirTAC International (1590.TW)

## KEY EARNINGS INPUTS

Drivers	2021	2022e	2023e	2024e
Shipment YoY (%)	34.1	(2.8)	11.1	10.3
ASP YoY (%)	(1.2)	0.7	(0.0)	(0.0)

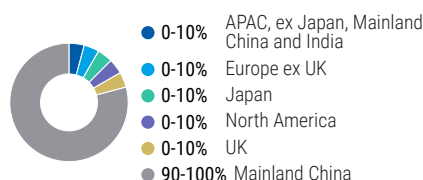
## CATALYST CALENDAR

Date	Event	Source: Refinitiv, Morgan Stanley
25 Apr 2023 - 01 May 2023	Q1 2023 Airtac International Group Earnings Release	

## INVESTMENT DRIVERS

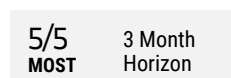
- Monthly sales growth momentum
- Margin improvement

## GLOBAL REVENUE EXPOSURE



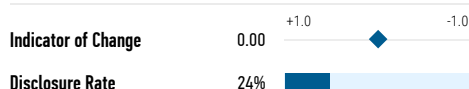
Source: Morgan Stanley Research Estimate  
View explanation of regional hierarchies [here](#)

## MS ALPHA MODELS



Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

## SUSTAINABILITY &amp; ESG



## RISKS TO PT/RATING

## RISKS TO UPSIDE

- Stronger macroeconomic climate in China.
- Stronger-than-expected demand from industrial automation.

## RISKS TO DOWNSIDE

- Sharper economic downturn in China.
- Miniature linear guideway business development taking more time.
- Larger-than-expected investment in new products but weaker-than-expected demand.

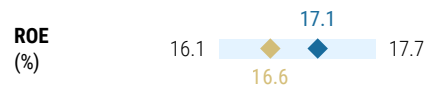
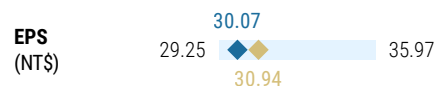
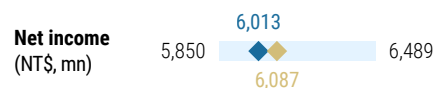
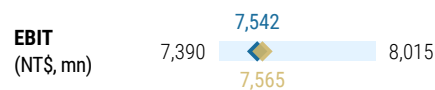
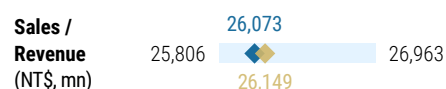
## OWNERSHIP POSITIONING

Inst. Owners, % Active 84.2%

Source: Refinitiv, Morgan Stanley Research

## MS ESTIMATES VS. CONSENSUS

FY Dec 2022e



◆ Mean ◆ Morgan Stanley Estimates

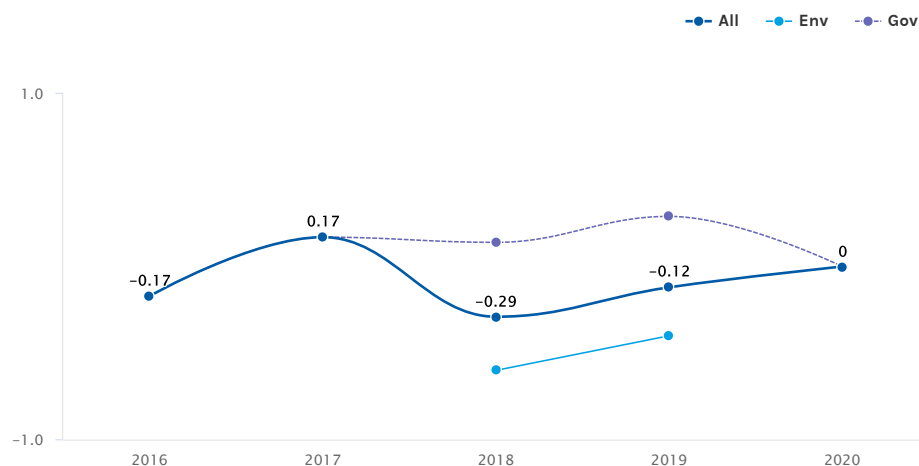
Source: Refinitiv, Morgan Stanley Research



## Risk Reward – AirTAC International (1590.TW)

## SUSTAINABILITY AND ESG

## INDICATOR OF CHANGE OVER TIME



## SUMMARY

In 2020, AirTAC had an ESG Indicator of Change of 0, which signals that overall, its ESG data points in our database stayed flat YoY.

## SUSTAINABLE SOLUTIONS

Theme	Exposure
Energy Storage	10% (EBITA)
Green Mobility	5% (EBITA)
Energy Efficiency	4% (EBITA)

Exposure is presented for top four Sustainability themes  
View explanation of Theme/Exposure methodology [here](#)

Environment	Unit	Dec '18	Dec '19	Dec '20
CO2 emissions (Scope 1 and 2)	tonnes CO2 equivalent	4,784,539	5,242,254	-
Energy consumption	Gigajoules	91,787,703	101,039,040	-
Total waste	tonnes	11,813	11,754	-
Waste recycled	Percentage	58.48%	56.47%	-
Water consumption	cubic metre	622,197	631,543	-
Water recycled	Percentage	5.14%	5.50%	-
<b>Governance</b>				
Avg tenure of the board	Years	7.11	5.73	6.73
Female board members	Percentage	0.00%	11.11%	11.11%
Independent board members	Percentage	33.33%	33.33%	33.33%
Shares owned by board members	Percentage	5.03%	7.47%	6.98%

Indicator of change chart is plotted using the fiscal aligned methodology. View explanation of 'Indicator of Change' methodology [here](#)

Source: Company Data, Morgan Stanley Research

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(as of January 31, 2023)

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STOCK RATING CATEGORY	COVERAGE UNIVERSE		INVESTMENT BANKING CLIENTS (IBC)			OTHER MATERIAL INVESTMENT SERVICES CLIENTS (MISC)	
	COUNT	% OF TOTAL	COUNT	% OF TOTAL IBC	% OF RATING CATEGORY	COUNT	% OF TOTAL OTHER MISC
<b>Overweight/Buy</b>	<b>1360</b>	<b>37%</b>	<b>277</b>	<b>43%</b>	<b>20%</b>	<b>599</b>	<b>38%</b>
<b>Equal-weight/Hold</b>	<b>1672</b>	<b>45%</b>	<b>292</b>	<b>45%</b>	<b>17%</b>	<b>737</b>	<b>47%</b>
<b>Not-Rated/Hold</b>	<b>4</b>	<b>0%</b>	<b>0</b>	<b>0%</b>	<b>0%</b>	<b>0</b>	<b>0%</b>
<b>Underweight/Sell</b>	<b>658</b>	<b>18%</b>	<b>82</b>	<b>13%</b>	<b>12%</b>	<b>232</b>	<b>15%</b>
<b>TOTAL</b>	<b>3,694</b>		<b>651</b>			<b>1568</b>	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

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### Stock Price, Price Target and Rating History (See Rating Definitions)

AirTAC International (1590.TW) - As of 2/7/23 in TWD  
Industry : Greater China Technology Hardware

Stock Rating History: 2/1/18 : O/I; 8/6/18 : E/I; 9/25/18 : U/I; 9/23/19 : O/I; 5/29/20 : E/I; 7/29/20 : O/I; 1/20/21 : O/I; 11/8/21 : E/I; 1/11/22 : O/I; 8/4/22 : E/I

Price Target History: 1/30/18 : 522.42; 4/22/18 : 597.34; 7/6/18 : 515.52; 8/6/18 : 345; 9/25/18 : 256.28; 10/11/18 : 197.14; 9/23/19 : 443.57; 10/31/19 : 502.71; 2/6/20 : 532.28; 3/20/20 : 512.57; 4/9/20 : 532.28; 4/30/20 : 591.42; 6/5/20 : 566.78; 7/22/20 : 591.42; 7/29/20 : 680.13; 9/4/20 : 704.78; 10/12/20 : 734.35; 10/29/20 : 773.78; 1/20/21 : 1379.98; 1/28/21 : 1409.55; 4/29/21 : 1567.27; 8/5/21 : 1379.98; 10/4/21 : 1300; 11/8/21 : 870; 1/11/22 : 1250; 3/24/22 : 1150; 8/4/22 : 850; 10/27/22 : 600; 1/16/23 : 1050

Source: Morgan Stanley Research Date Format : MM/DD/YY Price Target -- No Price Target Assigned (NA)

Stock Price (Not Covered by Current Analyst) — Stock Price (Covered by Current Analyst) —

Stock and Industry Ratings (abbreviations below) appear as ♦ Stock Rating/Industry View

Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)

Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

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Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

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#### INDUSTRY COVERAGE: Greater China Technology Hardware

COMPANY (TICKER)	RATING (AS OF)	PRICE* (02/08/2023)
<b>Andy Meng, CFA</b>		
BYD Electronics (0285.HK)	E (11/15/2022)	HK\$26.60
China TransInfo Technology Co Ltd (002373.SZ)	U (05/24/2021)	Rmb10.55
Dahua Technology Co. Ltd. (002236.SZ)	E (12/06/2022)	Rmb13.18
Genius Electronic Optical Co. Ltd. (3406.TW)	E (01/09/2023)	NT\$381.00
Gosuncn Technology Group Co Ltd (300098.SZ)	U (11/07/2022)	Rmb3.53
HIKVision Digital Technology (002415.SZ)	O (11/02/2015)	Rmb36.90
Largan Precision (3008.TW)	U (01/09/2023)	NT\$2,235.00
LianChuang Electronic Technology Co Ltd (002036.SZ)	O (07/25/2022)	Rmb13.82
OFILM Group Co Ltd (002456.SZ)	E (11/04/2021)	Rmb5.15
Q Technology (Group) Company Ltd (1478.HK)	O (01/09/2023)	HK\$5.21
Quectel Wireless Solutions Co Ltd (603236.SS)	O (11/07/2022)	Rmb119.46
Shenzhen Transsion Holdings Co Ltd (688036.SS)	O (08/12/2021)	Rmb90.80
Sunny Optical (2382.HK)	E (01/09/2023)	HK\$102.00
Wingtech Technology Co Ltd (600745.SS)	O (05/18/2022)	Rmb57.96
Xiaomi Corp (1810.HK)	O (04/14/2021)	HK\$12.46
Yangtze Optical Fibre and Cable JSC Ltd (601869.SS)	U (10/13/2021)	Rmb34.87
Yangtze Optical Fibre and Cable JSC Ltd (6869.HK)	O (12/17/2021)	HK\$14.48
Yongxin Optics Co Ltd (603297.SS)	E (11/15/2022)	Rmb99.00
YuTong Optical Technology Co Ltd (300790.SZ)	E (04/05/2022)	Rmb18.32
Zhejiang Crystal-Optech Co Ltd (002273.SZ)	O (11/15/2022)	Rmb12.91
ZTE Corporation (0763.HK)	O (06/20/2019)	HK\$18.72
ZTE Corporation (000063.SZ)	U (07/02/2021)	Rmb26.75
<b>Derrick Yang</b>		
Advantech (2395.TW)	O (01/20/2021)	NT\$364.50
AirTAC International (1590.TW)	E (08/04/2022)	NT\$1,095.00
AU Optronics (2409.TW)	E (10/04/2022)	NT\$17.70
BOE Technology (000725.SZ)	O (09/06/2019)	Rmb3.99
Chroma Ate Inc. (2360.TW)	O (10/05/2021)	NT\$192.50
E Ink Holdings Inc. (8069.TWO)	E (11/15/2022)	NT\$193.00
Ennoconn Corporation (6414.TW)	O (01/20/2021)	NT\$229.50
Ennostar Inc (3714.TW)	U (09/23/2022)	NT\$50.30
GIS Holding Limited (6456.TW)	O (12/01/2020)	NT\$87.00
Hiwin Technologies Corp. (2049.TW)	E (08/11/2022)	NT\$246.50
Innolux (3481.TW)	O (10/04/2022)	NT\$13.05
Lens Technology (300433.SZ)	E (07/22/2020)	Rmb13.31
Leyard Optoelectronic Co Ltd (300296.SZ)	E (11/03/2020)	Rmb6.17
Radiant Opto-Electronics Corporation (6176.TW)	O (12/01/2020)	NT\$104.00
Sanan Optoelectronics (600703.SS)	E (09/23/2022)	Rmb19.45
TCL Corp. (000100.SZ)	E (06/11/2019)	Rmb4.10
Tianma Microelectronics (000050.SZ)	U (01/24/2018)	Rmb9.41
Visionox Technology Inc (002387.SZ)	E (02/18/2020)	Rmb6.56
Wuhan Jingce Electronic Group Co Ltd (300567.SZ)	E (11/26/2021)	Rmb60.96
Wuhu Token Science Co. Ltd. (300088.SZ)	E (12/01/2020)	Rmb6.69
<b>Green Cai</b>		
Accelink Technologies Co. Ltd. (002281.SZ)	U (05/12/2022)	Rmb19.16
Eoptolink Technology Inc Ltd (300502.SZ)	E (12/01/2022)	Rmb28.58
Suzhou TFC Optical Communication Co Ltd. (300394.SZ)	O (12/01/2022)	Rmb32.72
Zhongji Innolight Co Ltd (300308.SZ)	E (12/01/2022)	Rmb33.10
<b>Howard Kao</b>		

Accton Technology Corporation (2345.TW)	E (11/12/2021)	NT\$274.00
Acer Inc. (2353.TW)	U (02/01/2018)	NT\$25.45
Asustek Computer Inc. (2357.TW)	U (07/23/2021)	NT\$277.50
Compal Electronics (2324.TW)	U (12/18/2019)	NT\$23.50
Flexium (6269.TW)	E (04/27/2018)	NT\$103.00
Giga-Byte Technology Co. Ltd. (2376.TW)	O (12/15/2022)	NT\$120.00
Gold Circuit Electronics Ltd. (2368.TW)	O (10/06/2022)	NT\$87.80
Guangdong Fenghua Adv. Tech. (Hldg) Co (000636.SZ)	E (05/12/2021)	Rmb16.99
Inspur Electronic Information (000977.SZ)	E (02/12/2019)	Rmb26.97
Kinsus Interconnect Tech. (3189.TW)	U (12/21/2022)	NT\$110.00
Lenovo (0992.HK)	E (07/26/2018)	HK\$6.58
Lotes Co. Ltd. (3533.TW)	O (10/06/2022)	NT\$833.00
Nan Ya PCB (8046.TW)	U (12/21/2022)	NT\$244.00
Pegatron Corporation (4938.TW)	E (03/07/2022)	NT\$66.20
Quanta Computer Inc. (2382.TW)	E (07/28/2021)	NT\$77.50
Shengyi Technology Co Ltd. (600183.SS)	E (05/26/2022)	Rmb16.48
Shennan Circuits Co Ltd (002916.SZ)	O (07/22/2020)	Rmb79.20
Unimicron (3037.TW)	E (06/01/2022)	NT\$131.50
Wistron Corporation (3231.TW)	E (07/26/2018)	NT\$31.90
Wiwynn Corp (6669.TW)	E (01/09/2023)	NT\$850.00
Yageo Corp. (2327.TW)	O (01/04/2022)	NT\$531.00
Zhen Ding (4958.TW)	E (08/02/2022)	NT\$112.50

#### Lily Chou

Asia Vital Components Co. Ltd. (3017.TW)	E (10/07/2022)	NT\$115.00
Auras Technology Co Ltd (3324.TWO)	U (03/21/2022)	NT\$163.50
BizLink Holding Inc (3665.TW)	E (08/18/2022)	NT\$272.00
Cubic Sensor and Instrument Co Ltd (688665.SS)	E (08/18/2022)	Rmb107.30
SDI Corporation (2351.TW)	O (08/18/2022)	NT\$123.50
Sunonwealth Electric Machine Industry Co (2421.TW)	E (10/07/2022)	NT\$43.25

#### Sharon Shih

AAC Technologies Holdings (2018.HK)	++	HK\$19.74
Catcher Technology (2474.TW)	U (04/23/2021)	NT\$185.00
Delta Electronics Inc. (2308.TW)	O (07/13/2017)	NT\$296.00
Foxconn Industrial Internet Co. Ltd. (601138.SS)	O (07/10/2019)	Rmb9.26
Foxconn Technology (2354.TW)	E (08/16/2016)	NT\$55.80
GoerTek Inc (002241.SZ)	E (12/05/2022)	Rmb21.34
Guangzhou Shiyuan Electronic Tech Co Ltd (002841.SZ)	E (10/28/2021)	Rmb63.18
Hon Hai Precision (2317.TW)	E (01/09/2023)	NT\$100.50
LandMark Optoelectronics Corporation (3081.TWO)	E (10/27/2022)	NT\$131.00
Lingyi Itech Guangdong Co (002600.SZ)	U (05/23/2022)	Rmb5.65
Lite-On Technology (2301.TW)	E (07/31/2020)	NT\$69.40
Luxshare Precision Industry Co., Ltd. (002475.SZ)	O (10/24/2016)	Rmb31.61
Tong Hsing (6271.TW)	E (03/18/2019)	NT\$235.00
Visual Photonics Epitaxy Co Ltd (2455.TW)	E (07/06/2022)	NT\$84.80

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\* Historical prices are not split adjusted.