

Pentamaster International | 1665.HK

Trading Buy Rating Maintain Potential beneficiary of lower import tariff **HKD 1.58 Target Price** From HK\$1.41 **HKD 1.20** Current price Upside:31.6% China to lower import tariff may benefit non-US equipment suppliers **Company Update** The State Council announced on Sept 26 after the executive meeting that China 4 October 2018 will reduce import tariffs on 1,585 taxable items starting Nov. 1 2018, to serve industrial upgrading, lower corporate cost and meet domestic demand. The tariff cut will lower the tax burden on consumers and companies by about US\$8.7bn Hayman Chiu (~RMB 60 billion) this year. The average import tax for some machinery will be hayman.chiu@cinda.com.hk reduced from 12.2% to 8.8%, any reduction of tariffs usually must be offered to all countries equally under WTO rules, but we believe U.S. goods would still be (852) 2235 7677 subject to China's retaliatory tariffs. According to China Customs, the cumulative import value of machinery and electrical equipment came in at ~US\$136bn in **Trading data** 8M18 (+25.6% Yoy), in which the import value of machinery and electrical equipment used for the manufacture of semiconductor devices/ ICs was at 52-Week Range (HK\$) 1.40/0.86 US\$8.2bn (+39.8% Yoy), while import volume rose 76.5% to 10.2k units. 3 Mth Avg Daily Vol (m) 2.23 No. of Shares (m) 1.600.0 The Chinese smartphone brands began to gradually adopt 3D sensing solutions Market Cap (HK\$m) 1,902.0 and under-glass FP recognition module in their flagship smartphones. In early Jul Major Shareholders (%) Pentamaster Corp BHD 2018, AMS (PI currently providing testing solution and contributed 56.6% of total Auditors (63.1%) revenue in 1H18) announced that Xiaomi's new Mi8 Explorer Edition adopts their **Result Due** Grant Thornton miniature infrared VCSEL arrays to enable the world's first implementation of 3Q18: Nov 2019 user face recognition in a smartphone based on the Android platform. Meanwhile, the rumoured Huawei Mate 20 series (to be officially unveiled in mid-Oct) would also equip with 3D face identification for unlocking and Company description under-glass FP recognition module. Established in 1995 and listed in HKEx in Jan 2018, Pentamaster International (PI) is an automation In 1H18, PI's revenue derived from China soared 204% to MYR38.9mn (based manufacturing and technology solutions provider, on shipment destination) and accounted for 19.5% of total revenue. In view of providing an integrated range of innovative services in increasing popularity 3D sensing solutions and under-glass FP recognition manufacturing of automated and semi-automated module among Chinese smartphones, this would trigger demand for MEMS & machinery and equipment to renowned clients smart sensor test handler solution. As the trade tensions between US and China worldwide with exposure to semiconductor, computer, automotive, electrical & electronics, pharmaceutical, do not see any signs of easing, we believe Chinese smartphone brands would medical devices, food & beverages, consumer choose non-US brand 3D sensing solutions, hence expecting AMS and electronics or end product test solutions to general Pentamaster would be the potential beneficiaries. manufacturing Strong ATE equipment demand boost 1H18 result, GM expansion on **Price chart** better margin projects being delivered; 1.4 Pentamaster delivered a strong set of 1H18 results, with revenue and adjusted 1.3 net profit (excl. MYR 1.65mn listing fee) up 106.3%/148% respectively to MYR 1.2 199.4mn/47.2Mn. The robust result was driven by robust demand for MEMS & 1.1 smart sensor testing handler (we believe to be 3D sensing) from ATE segment, 1.0 and higher demand for integrated AMS (telecom and automotives). In 1H18, sales from telecom, semiconductor and automobile sector rocketed 07 112.5%/21.2%/>15x Yoy, and Pentamaster's GM soared 160bps Yoy to 31.9% (vs. 30.1% in 1Q18) thanks to i) automated equipment projects with better margins delivered to customers in the telecom sector and ii) increased economy of scale Sources: Bloomberg, CIRL The non-memory ATE segment, which Pentamaster currently focuses on, FLASH NOTE represent short-term dominated the automated test equipment market in 2016 (accounted for >50%). trading ideas by Cinda International

Though the overall market expected to grow 3.5% in 2016-2021E, we expect Pentamaster would continue enjoy a higher than industry growth, thanks to i) incorporating new features by smartphone customers (such as 3D sensing, under-glass FP recognition modules etc.); ii) increasing automotive IC dollar contents and iii) taking up market share from other industry players.

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✓ Factory Automation System (FAS) to benefit from increasing IC contents in automobiles and China favourable policy

FAS revenue grew 26.1% CAGR in FY14-FY17, and further accelerated to 80.1% Yoy to MYR 25.1Mn (12.6% of 1H18 revenue), and segment result came in at MYR 2.86mn (vs. MYR 0.94mn in 1Q18).

Particularly in China, in view of rising wages, shortage in skilled factory workers, growing demand for high precision parts/components (e.g. consumer electronics and automotives) and to improve production efficiency and quality, these provide ample room for FAS implementation (e.g. industrial robots installation). Pentamaster targets to expand Greater China business, and we believe they would benefit under Made in China 2025 and Robotics Industry Development Plan 2016-2020(《機器人產業發展規劃(2016-2020年)》)

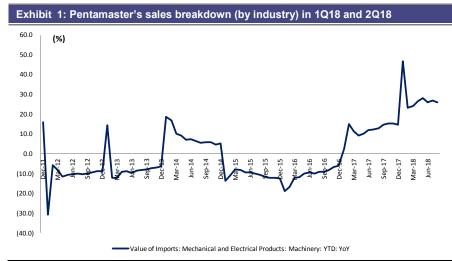
Order backlog with high sales visibility, new plant began operation

In 1H18, Pentamaster's outstanding order backlog came in at MYR235.7mn (vs. MYR249.2 in end-2017), which implies a ~1.2x book-to-bill ratio, already accounted for ~60% of market consensus revenue. With 6-9 months delivery time required, this means most of the backlogs would be recognized as revenue in FY18E and 1Q19.

Following the completion of the second new production plant with GFA ~97k sq. ft., Pentamaster production plant's total gross floor is now estimated to be >180k sq. ft. Pentamaster expects more delivery of projects involving large-scale factory automation lines such as i-ARMs solutions in 2H18E. The new plant fulfill clean room ISO Class 9 environment, which is a prerequisite for a number of potential customers in the medical device sector.

Undemanding FY18E 10.2x PE, re-rating story still makes sense

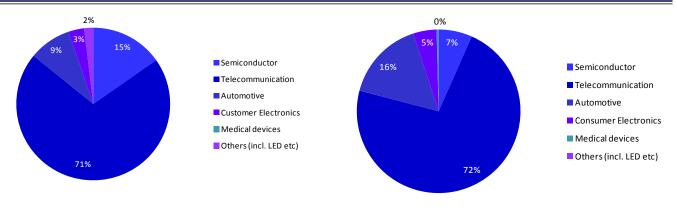
We expect Pentamaster's core EPS to grow 40.9% CAGR in FY17-FY20E, driven by gradual GM expansion from both business segments and enjoy economy of scale. Pentamaster is trading at an undemanding valuation 10.2x FY18E PE (~50% discount to peers avg. at 20.2x). We believe Pentamaster still deserves a re-rating story. We arrive its TP at HK\$1.58 based on 14.2x FY18E PE (30% discount to sector average vs. 20% discount in our last report in June 2018 due to markets' lower risk appetite for small caps). We identify the following upside catalysts for Pentamaster: i) Parent co's 9M18 result (due in mid-Nov), ii) Pentamaster's increasing order-backlog, iii) Faster than expected adoption of 3D sensing and under-glass FP recognition modules and iv) Order wins from medical device clients



Source: WIND, China Customs, CIRL

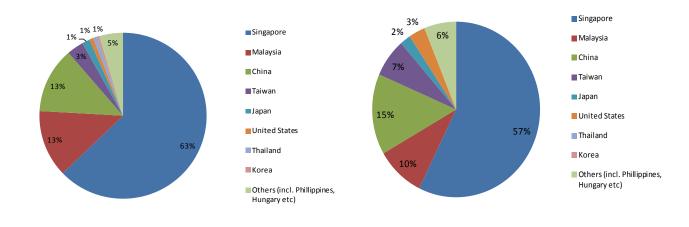


Exhibit 2: Pentamaster's sales breakdown (by industry) in 1Q18 and 2Q18

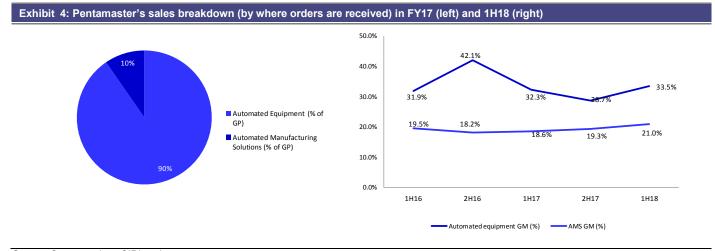


Source: Company data, CIRL

Exhibit 3: Pentamaster's sales breakdown (by where orders are received) in FY17 (left) and 1H18 (right)

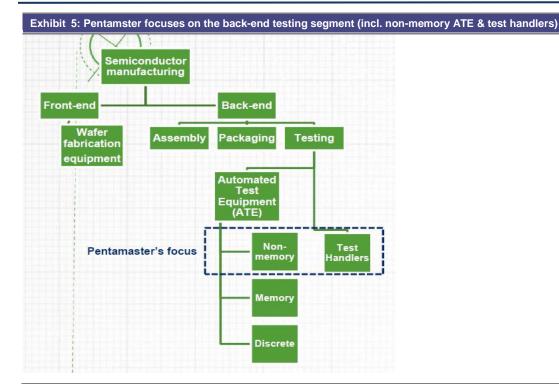


Source: Company data, CIRL

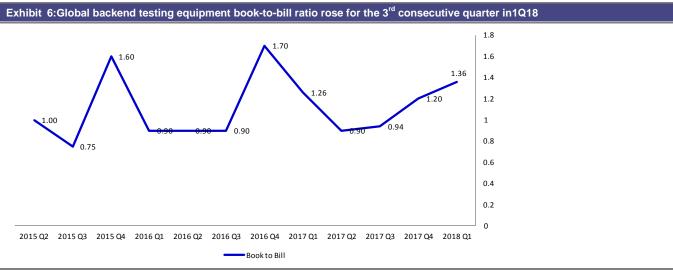


Source: Company data, CIRL estimates





Source: Company data



Source: Bloomberg, CIRL



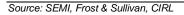
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Customer	Company Nature	Description	Year began business relationship	Products & solutions provided by Pentamaster	% of 1H17 revenue	% of FY17 revenue	% of 1H18 reve
Customer A	Parentco listed on SIX Swiss Exchange	Established in Singapore in 1993, and operates as a subsidiary under an Austrian company listed on SIX Swiss Exchange in 2017. Parentco engages in the design and manufacture of advanced sensor solutions. Customer A focuses on micro-optic and high performance optical packaging.	2009	- MEMS & smart sensor test handler solutions; Intelligent sortation system	61.30%	51.70%	56.60%
Customer B	Listed on NASDAQ	includes design, manufacture, marketing of mobile communication, media devices, personal computers & portable digital music players. It also cells a variety of related software, services, accessories, networking solutions and 3rd party digital contents and applications	2012	- i-ARMS solutions & AMS modules	8.00%	6.60%	7.00%
Customer C	Private Company	A UK company focues on the design and manufacture of household appliances such as bladeless fans/ heaters, vaccum cleaners, hair dryers	2015	- End product test solutions and ancilliary products	7.40%	5.10%	0.30%
Customer D	Carsem Sdn. Bhd. (Listed on the Bursa Malaysia)	Provides turnkey packaging and testing services to the semiconductor industry	2006	- Automation vision inspection handler solutions	5.00%	4.60%	1.00%
Customer E	Dixin Automation Sdn. Bhd.	Trading of automated equipment	2006	- Intelligent sortation system and ancillary products	5.00%	5.90%	0.50%
				Top 5 client sales contribution	86.70%	73.90%	65.40%

Source: Company data, CIRL

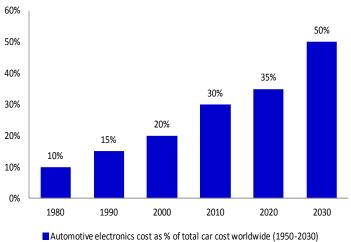
	Automated Equipment	Automated manufacturing solutions
Key Features	 Standardised and customized standalone automoated equipment for i) semiconductor electronic components testing for smart sensors & lcs; ii) end product testing for consumer electronics, telecommunication products & LED 	 Customized integrated manufacturing system consisting of automated assembly and test modules, material handling equipment, robotics technology, auto inspection and MES (manufacturing executive system)
	 Address customers' functionality testing requirements during various stages of their manufacturing process 	- Caters to specific manufacturing needs for automation
	- Part of the back-end semiconductor ATE market	- Part of the back-end semiconductor ATE market
Main products & solutions	 MEMS (Microelectromechanical systems) & smart sensor test handler solutions Automated vision inspection handler solutions Intelligent sortation system End Product Testing 	1) AMS (Automated Manufacturing Systems) modules 2) i-ARMS solutions
ey Market trends	 IoT revolution in end user industries has presented new application for semiconductor ICs, particularly those embedded with intelligence (e.g. telecommunications, automotive and medical devices) 	 Factory automation is typically part of the modern assembly line production where components are integrated/processed with computeriization and automation of the whole manufacturing process.
	2) Due to sheer volume of DUT (such as ICs/sensors) and micro sizes of the test points on each unite, semiconductor ATE is used to verify the DUT according to design specs/ to identify & diagnose faults	 Industry 4.0 has been integrating smart automation solutions and real time data exchange into the manufacturing sector. Hence all manufacturers are potential customers
	FY15: 61.7%;FY16:71.7% ; FY17: 85.6%	FY15: 38.3%;FY16:28.3% ; FY17: 14.4%

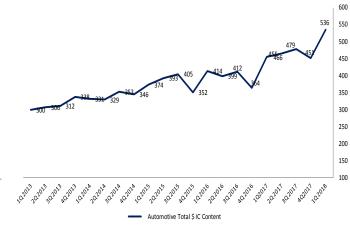


Exhibit 9: Global non-memory ATE and test handlers market expected to grow 3.5%/5.1% CAGR in 2016-2021E 2.00 6.0% 9.0% 0.35 1.96 0.32 2016-2021E CAGR : 5.1% 2016-2021E CAGR : 3.5% 0.31 1.95 0.29 8.0% 1.90 0.30 0.28 5.0% 1.90 4.8% 0.26 1.85 0.25 7.0% 1.85 0.25 1.80 4.0% 6.0% 1.80 4.09 1.73 0.20 5.0% 1.75 3.0% 1.70 3.2% 4.0% 1.65 0.15 2.8% 2.7% 4.0% 1.65 2.0% 3.0% 0.10 1.60 3.2% 2.0% 1.55 1.0% 0.05 1.0% 1.50 0.0% 0.0% 1.45 0.00 2016 2017E 2018E 2019E 2020E 2021E 2016 2019E 2021E 2017F 2018F 2020F APAC test handlers market, 2016-2021E (US\$ Bn) • Yoy(%) APAC non-memory ATE market, 2016-2021E (US\$ Bn) - Yoy(%) -









Source: Statista, Bloomberg, CIRL

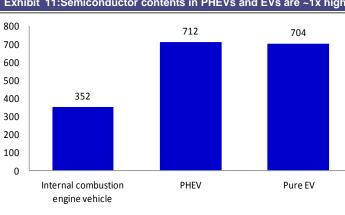


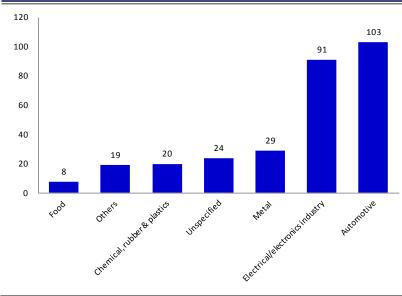
Exhibit 11:Semiconductor contents in PHEVs and EVs are ~1x higher than that of internal combustion engine vehicle

Average value (US\$) of semiconductor content in various types of automotive vehicles worldwide as of 2016

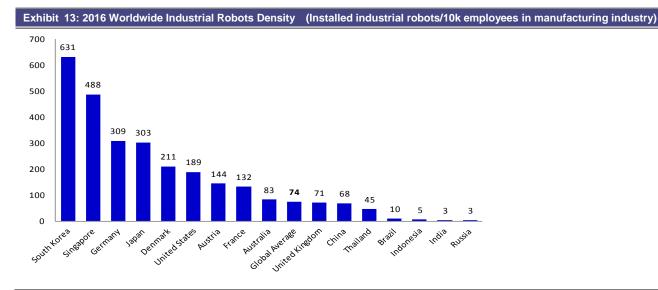
Source: Statista, CIRL



Exhibit 12:New installations of industrial robots worldwide in 2016 ('000 units)



Source: Statista, CIRL



Source: IFR (International Federation of Robots), CIRL

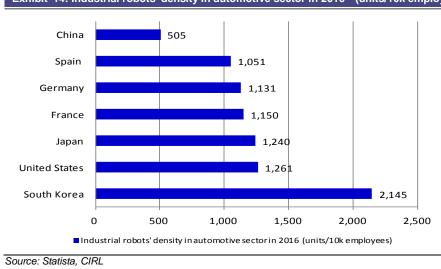
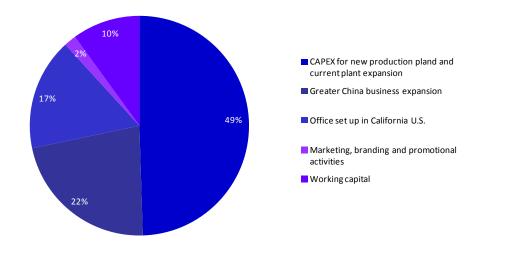


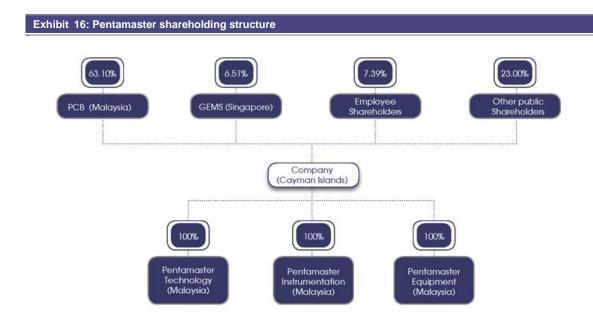
Exhibit 14: Industrial robots' density in automotive sector in 2016 (units/10k employees)



Exhibit 15: Pentamaster's use of net IPO proceeds (~HK\$171mn)



Source: Company prospectus, CIRL



Source: Company data



Year to Dec (MYR mn)	FY15A	FY16A	FY17A	FY18E	FY19E	FY20E
Segment Revene						
Automated equipment	45	102	233	348	433	519
Automated Manufacturing Solutions	28	40	39	51	65	84
Group	74	142	272	399	499	604
Segment Revenue Growth						
Automated equipment	-18.2%	123.8%	128.7%	49.4%	24.7%	19.8%
Automated Manufacturing Solutions	44.7%	42.0%	-2.6%	31.3%	27.3%	29.3%
Group	-1.9%	92.5%	91.5%	46.8%	25.0%	21.0%
Segment Gross Margin						
Automated equipment	29.1%	37.0%	30.0%	32.0%	32.0%	32.0%
Automated Manufacturing Solutions	26.4%	18.6%	19.0%	20.0%	21.0%	22.0%
Group	29.0%	31.8%	28.4%	30.5%	30.6%	30.6%

Source: Company data, CIRL estimates

	bloomberg ROE (%) ROA (%)		A (%)	FY17			
	code		FY17	FY17	GM (%)	OM (%)	PM (%)
AES- SMT/ automation plays							
ASM PACIFIC	522 HK		27.6	16.4	40%	20%	16%
O-NET TECHNOLOGI	877 HK		12.1	7.5	36%	15%	10%
WUHAN JINGCE E-A	300567 CH		21.3	14.8	46%	22%	19%
SHENZHEN JT AU-A	300400 CH		17.4	12.4	42%	22%	17%
DALIAN ZHIYUN-A	300097 CH		10.2	7.4	46%	23%	19%
SHENZHEN LIAND-A	300545 CH		11.6	6.8	30%	13%	12%
GUANGDONG ZHEN-A	300410 CH		-	-	-	-	16%
ASM INTL NV	ASM NA		22.5	20.9	41%	15%	61%
KCERRA CORP	XCRA US		7.6	5.5	44%	7%	6%
TERADYNE INC	TER US		13.6	8.8	57%	25%	12%
KULICKE & SOFFA	KLIC US		13.0	10.4	46%	12%	14%
COHUINC	COHU US		12.5	8.6	40%	10%	9%
ROCKWELL AUTOMAT	ROK US		35.4	11.6	42%	16%	13%
ATS AUTOMATION	ATA CN		5.2	2.6	25%	7%	3%
KOH YOUNG TECHNO	098460 KS		16.8	13.3	65%	22%	13%
OEM INTL AB-B	OEMB SS		28.3	15.2	N/A	10%	8%
CHROMA ATE	2360 TT		21.5	12.6	47%	20%	17%
ANUC CORP	6954 JP		9.5	8.3	43%	29%	24%
YASKAWA ELECTRIC	6506 JP		10.7	5.4	31%	8%	5%
THK CO LTD	6481 JP		6.7	4.1	26%	9%	6%
ADVANTEST CORP	6857 JP		14.0	6.4	58%	9%	9%
Average			16.2	10.1	42%	15%	15%
ENTAMASTER INTE	1665 HK		45.8	31.4	28%	21%	15%

Source: Bloomberg, CIRL



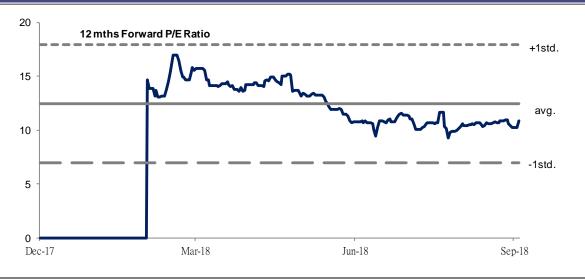
Exhibit 19: Financial statement

Year to Dec (MYR mn)	FY16A	FY17A	FY18E	FY19E	FY20E	
Revenue	142	272	399	499	604	
Gross profit (reported)	45	77	124	158	185	
EBITDA	36	49	97	110	126	
Depreciation	(3)	(4)	(3)	(6)	(8	
EBIT	33	45	94	105	118	
Net interest income (exp.)	(0)	(0)	(0)	(0)	(0	
Associates	0	0	0	0	0	
Exceptionals/others	0	0	0	0	0	
Profit before tax	33	45	94	105	118	
Tax expenses	1	(4)	(5)	(6)	(6	
Minority interest	0	0	0	0	0	
Net profit	31	40	89	99	112	
Dividends	0	0	0	0	0	
Balance sheet						
Year to Dec (MYR mn)	FY16A	FY17A	FY18E	FY19E	FY20E	
Cash & equiv	27	82	44	74	127	
Trade receivables	32	33	60	73	88	
Other receivables	3	8	5	6	2	
Inventories	18	122	172	213	262	
Other current assets	3	0	0	0	0	
Fixed assets	41	46	121	155	187	
Intangible assets	1	1	1	0	0	
Investment, associates etc	3	0	0	0	0	
Total assets	126	291	403	521	667	
Account payables	10	25	35	43	53	
Other payables	25	135	138	136	137	
Short-term debt	0	4	4	4	4	
Other current liabs	4	1	1	1	1	
Long-term debts	0	0	0	0	0	
Deferred tax and others	0	0	0	0	0	
Other long-term liabs	1	0	0	0	0	
Total liabilities	40	165	177	184	195	
Share capital	0	0	0	0	0	
Reserves	83	127	226	337	472	
Shareholders' equity	83	127	226	337	472	
Minorities	4	0	0	0	0	
Total equity	87	127	226	337	472	
Net cash (debt)	27	78	40	70	123	

Year to Dec (MYR mn) FY16A FY17A FY18E FY19E FY20E Pre-tax profit 33 45 94 105 118 Taxes paid 1 (4) (5) (6) (6) Depreciation 3 4 3 6 8 Associates 0 0 0 0 0 Change in working cap 2 (25) (157) (45) (54) Cashflow from operation 39 20 (65) 59 66 CAPEX (3) (3) (80) (42) (42) Free cash flow 36 17 146 17 24 Dividends 0 0 0 0 0 0 Shares issued 0 0 0 0 0 0 0 Net cash flow 5 15 14 29 53 Net cash (debt) start 7 11 27 40 70 123	Cash flow					
Taxes paid 1 (4) (5) (6) (6) Depreciation 3 4 3 6 8 Associates 0 0 0 0 0 Change in working cap 2 (25) (157) (45) (54) Cashflow from operation 39 20 (65) 59 66 CAPEX (3) (3) (80) (42) (42) Free cash flow 36 17 (146) 17 24 Dividends 0 0 0 0 0 Balance sheet adj. (32) (2) 160 12 30 Shares issued 0 0 0 0 0 Others 0 0 0 0 0 Net cash flow 5 15 14 29 53 Net cash (debt) start 7 11 27 40 70 123 Retics 2 91.5 46.8 25.0 21.0 EBITDA 162.3 35.5	Year to Dec (MYR mn)	FY16A	FY17A	FY18E	FY19E	FY20E
Depreciation 3 4 3 6 8 Associates 0 0 0 0 0 0 0 0 CFO bef. WC change 37 45 92 104 120 Change in working cap 2 (25) (157) (45) (59) Cashflow from operation 39 20 (65) 59 66 CAPEX (3) (3) (80) (42) (42) Free cash flow 36 17 (146) 17 24 Dividends 0 0 0 0 0 0 Balance sheet adj. (32) (2) 160 12 30 Shares issued 0 0 0 0 0 0 Others 0 0 0 0 0 0 Net cash flow 5 15 14 29 53 Net cash (debt) start 7 11 27 40 </td <td>Pre-tax profit</td> <td>33</td> <td>45</td> <td>94</td> <td>105</td> <td>118</td>	Pre-tax profit	33	45	94	105	118
Associates 0 0 0 0 0 0 CFO bef. WC change 37 45 92 104 120 Change in working cap 2 (25) (157) (45) (54) Cashflow from operation 39 20 (65) 59 66 CAPEX (3) (3) (30) (42) (42) Free cash flow 36 17 (146) 17 24 Dividends 0 0 0 0 0 0 Shares issued 0 0 0 0 0 0 Others 0 0 0 0 0 0 Net cash flow 5 15 14 29 53 Net cash (debt) start 7 11 27 40 70 123 Ratios E FY16A FY17A FY18E FY19E FY20E Growth rate (%) 162.3 35.5 97.7	Taxes paid	1	(4)	(5)	(6)	(6)
CFO bef. WC change 37 45 92 104 120 Change in working cap 2 (25) (157) (45) (54) Cashflow from operation 39 20 (65) 59 66 CAPEX (3) (3) (80) (42) (42) Free cash flow 36 17 (146) 17 24 Dividends 0 0 0 0 0 0 Balance sheet adj. (32) (2) 160 12 30 Shares issued 0 0 0 0 0 0 Others 0 0 0 0 0 0 0 Net cash (debt) start 7 11 27 40 70 123 Reatos Fytas Fyt18E Fyt19E Fyt20E Fyt20E Growth rate (%) 162.3 35.5 97.7 13.2 14.9 14.9 14.9 14.9 14.9 14.	Depreciation	3	4	3	6	8
Change in working cap 2 (25) (157) (45) (54) Cashflow from operation 39 20 (65) 59 66 CAPEX (3) (3) (80) (42) (42) Free cash flow 36 17 (146) 17 24 Dividends 0 0 0 0 0 Balance sheet adj. (32) (2) 160 12 30 Shares issued 0 0 0 0 0 0 Others 0 0 0 0 0 0 0 Net cash flow 5 15 14 29 53 Net cash (debt) start 7 11 27 40 70 123 Revenue 92.5 91.5 46.8 25.0 21.0 EBITDA 162.3 35.5 97.7 13.2 14.9 EBIT 210.5 38.0 107.7 11.2 13.1	Associates	0	0	0	0	0
Cashflow from operation 39 20 (65) 59 66 CAPEX (3) (3) (80) (42) (42) Free cash flow 36 17 (146) 17 24 Dividends 0 0 0 0 0 0 Balance sheet adj. (32) (2) 160 12 30 Shares issued 0 0 0 0 0 0 Others 0 0 0 0 0 0 0 Net cash flow 5 15 14 29 53 Net cash (debt) start 7 11 27 40 70 Net cash (debt) at year-end 11 27 40 70 123 Ratios 91.5 46.8 25.0 21.0 EBITDA 162.3 35.5 97.7 13.2 14.9 EBIT 210.5 38.0 107.7 11.2	CFO bef. WC change	37	45	92	104	120
CAPEX (3) (3) (80) (42) (42) Free cash flow 36 17 (146) 17 24 Dividends 0 0 0 0 0 0 0 Balance sheet adj. (32) (2) 160 12 30 Shares issued 0 0 0 0 0 0 0 Others 0 0 0 0 0 0 0 Net cash flow 5 15 14 29 53 Net cash (debt) start 7 11 27 40 70 Ret cash (debt) at year-end 11 27 40 70 123 Ratios E FY16A FY17A FY18E FY19E FY20E Growth rate (%) E 210.5 38.0 107.7 11.2 13.1 Revenue 92.5 91.5 46.8 25.0 21.0 23.1 BIIT	Change in working cap	2	(25)	(157)	(45)	(54)
Free cash flow 36 17 (146) 17 24 Dividends 0 0 0 0 0 0 0 Balance sheet adj. (32) (2) 160 12 30 Shares issued 0 0 0 0 0 0 Others 0 0 0 0 0 0 0 Net cash flow 5 15 14 29 53 Net cash (debt) start 7 11 27 40 70 Net cash (debt) at year-end 11 27 40 70 123 Ratios 7 11 27 40 70 123 Revenue 92.5 91.5 46.8 25.0 21.0 21.0 21.0 21.0 23.6 11.2 13.1 14.9 21.0 23.6 11.2 13.1 13.1 14.9 22.1 14.9 21.0 25.0 11.2	Cashflow from operation	39	20	(65)	59	66
Dividends 0 0 0 0 0 0 Balance sheet adj. (32) (2) 160 12 30 Shares issued 0 0 0 0 0 0 Others 0 0 0 0 0 0 0 Net cash flow 5 15 14 29 53 Net cash (debt) start 7 11 27 40 70 123 Ratios Prear to Dec FY16A FY17A FY18E FY19E FY20E Growth rate (%) Revenue 92.5 91.5 46.8 25.0 21.0 EBITDA 162.3 35.5 97.7 13.2 14.9 9 EBITDA 162.3 36.5 97.7 13.2 14.9 9 Growth rate (%) 202.1% 45.9% 94.4% 9.7% 13.2% Margins (%) Gross margin (reported) 31.8 28.4 31.2 31.8	CAPEX	(3)	(3)	(80)	(42)	(42)
Balance sheet adj. (32) (2) 160 12 30 Shares issued 0	Free cash flow	36	17	(146)	17	24
Shares issued 0 0 0 0 0 0 0 Others 0 0 0 0 0 0 0 Net cash flow 5 15 14 29 53 Net cash (debt) start 7 11 27 40 70 Net cash (debt) at year-end 11 27 40 70 123 Ratios Year to Dec FY16A FY17A FY18E FY19E FY20E Growth rate (%) Revenue 92.5 91.5 46.8 25.0 21.0 EBITDA 162.3 35.5 97.7 13.2 14.9 EBIT 210.5 38.0 107.7 11.2 13.1 Fully diluted EPS 202.1% 45.9% 94.4% 9.7% 13.2% Margins (%) Gross margin (reported) 31.8 28.4 31.2 31.8 30.6 EBITDA 25.6 18.1 24.4 22.1	Dividends	0	0	0	0	0
Others 0 0 0 0 0 0 Net cash flow 5 15 14 29 53 Net cash (debt) start 7 11 27 40 70 Net cash (debt) at year-end 11 27 40 70 123 Ratios FYar Fy18E Fy19E Fy20E Growth rate (%) FY16A FY17A FY18E FY19E FY20E Growth rate (%) 162.3 35.5 97.7 13.2 14.9 EBIT 210.5 38.0 107.7 11.2 13.1 Net profit 202.2 27.0 123.6 11.2 13.1 Fully diluted EPS 202.1% 45.9% 94.4% 9.7% 13.2% Margins (%) Gross margin (reported) 31.8 28.4 31.2 31.8 30.6 EBITDA 25.6 18.1 24.4 22.1 21.0 18.5 Other ratios Gross margin (reported) 31.8<	Balance sheet adj.	(32)	(2)	160	12	30
Net cash flow 5 15 14 29 53 Net cash (debt) start 7 11 27 40 70 Net cash (debt) at year-end 11 27 40 70 123 Ratios Year to Dec FY16A FY17A FY18E FY19E FY20E Growth rate (%) 91.5 46.8 25.0 21.0 EBITDA 162.3 35.5 97.7 13.2 14.9 EBIT 210.5 38.0 107.7 11.2 13.1 Net profit 202.2 7.0 123.6 11.2 13.1 Fully diluted EPS 202.1% 45.9% 94.4% 9.7% 13.2% Margins (%) Gross margin (reported) 31.8 28.4 31.2 31.8 30.6 EBITDA 25.6 18.1 24.4 22.1 21.0 18.6 Det ratios 22.1 14.6 22.3 19.8 18.5	Shares issued	0	0	0	0	0
Net cash (debt) start 7 11 27 40 70 Net cash (debt) at year-end 11 27 40 70 123 Ratios Year to Dec FY16A FY17A FY18E FY19E FY20E Growth rate (%) Revenue 92.5 91.5 46.8 25.0 21.0 BBITDA 162.3 35.5 97.7 13.2 14.9 EBIT 210.5 38.0 107.7 11.2 13.1 Net profit 202.2 27.0 123.6 11.2 13.1 Fully diluted EPS 202.1% 45.9% 94.4% 9.7% 13.2% Margins (%) Gross margin (reported) 31.8 28.4 31.2 31.8 30.6 EBITDA 25.6 18.1 24.4 22.1 21.0 19.6 Net margin 22.1 14.6 22.3 19.8 18.5 Other ratios ROA (%) 40.8 31.4 22.0 18.9 16.8 <td>Others</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td>	Others	0	0	0	0	0
Net cash (debt) at year-end 11 27 40 70 123 Ratios Year to Dec FY16A FY17A FY18E FY19E FY20E Growth rate (%) Revenue 92.5 91.5 46.8 25.0 21.0 BBITDA 162.3 35.5 97.7 13.2 14.9 EIST BIT 210.5 38.0 107.7 11.2 13.1 Net profit 202.2 27.0 123.6 11.2 13.1 Fully diluted EPS 202.1% 45.9% 94.4% 9.7% 13.2% Margins (%) Gross margin (reported) 31.8 28.4 31.2 31.8 30.6 EBITD 23.1 16.7 23.6 21.0 19.6 Margins (%) 31.8 28.4 31.2 31.8 30.6 EBITD 23.1 16.7 23.6 21.0 19.6 Net margin 22.1 14.6 22.3 19.8 18.5 Other ratios <th< td=""><td>Net cash flow</td><td>5</td><td>15</td><td>14</td><td>29</td><td>53</td></th<>	Net cash flow	5	15	14	29	53
Ratios Year to Dec FY16A FY17A FY18E FY19E FY20E Growth rate (%) Revenue 92.5 91.5 46.8 25.0 21.0 EBITDA 162.3 35.5 97.7 13.2 14.9 EBIT 210.5 38.0 107.7 11.2 13.1 Net profit 202.2 27.0 123.6 11.2 13.1 Fully diluted EPS 202.1% 45.9% 94.4% 9.7% 13.2% Margins (%) Gross margin (reported) 31.8 28.4 31.2 31.8 30.6 EBITDA 25.6 18.1 24.4 22.1 21.0 19.6 Net margin 22.1 14.6 22.3 19.8 18.5 Other ratios ROA (%) 58.1 45.8 39.4 29.3 23.7 ROA (%) (21.3) (30.6) (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5	Net cash (debt) start	7	11	27	40	70
Year to Dec FY16A FY17A FY18E FY19E FY20E Growth rate (%) Revenue 92.5 91.5 46.8 25.0 21.0 EBITDA 162.3 35.5 97.7 13.2 14.9 EBIT 210.5 38.0 107.7 11.2 13.1 Net profit 202.2 27.0 123.6 11.2 13.1 Fully diluted EPS 202.1% 45.9% 94.4% 9.7% 13.2% Margins (%) Gross margin (reported) 31.8 28.4 31.2 31.8 30.6 EBITDA 25.6 18.1 24.4 22.1 21.0 18.5 Other ratios 22.1 14.6 22.3 19.8 18.5 Other ratios ROA (%) 40.8 31.4 22.0 18.9 16.8 Net gearing (%) (21.3) (30.6) (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5 4,746.2 4,435.6 <td>Net cash (debt) at year-end</td> <td>11</td> <td>27</td> <td>40</td> <td>70</td> <td>123</td>	Net cash (debt) at year-end	11	27	40	70	123
Growth rate (%) 92.5 91.5 46.8 25.0 21.0 EBITDA 162.3 35.5 97.7 13.2 14.9 EBIT 210.5 38.0 107.7 11.2 13.1 Net profit 202.2 27.0 123.6 11.2 13.1 Fully diluted EPS 202.1% 45.9% 94.4% 9.7% 13.2% Margins (%) Gross margin (reported) 31.8 28.4 31.2 31.8 30.6 EBITDA 25.6 18.1 24.4 22.1 21.0 18.6 DBITDA 25.6 18.1 24.4 22.1 21.0 18.6 EBIT 23.1 16.7 23.6 21.0 19.6 19.6 Net margin 22.1 14.6 22.3 19.8 18.5 Other ratios ROA (%) 40.8 31.4 22.0 18.9 16.8 Net gearing (%) (21.3) (30.6) (17.9) (20.7) (26.7)	Ratios					
Revenue 92.5 91.5 46.8 25.0 21.0 EBITDA 162.3 35.5 97.7 13.2 14.9 EBIT 210.5 38.0 107.7 11.2 13.1 Net profit 202.2 27.0 123.6 11.2 13.1 Fully diluted EPS 202.1% 45.9% 94.4% 9.7% 13.2% Margins (%) Gross margin (reported) 31.8 28.4 31.2 31.8 30.6 EBITDA 25.6 18.1 24.4 22.1 21.0 EBIT 23.1 16.7 23.6 21.0 19.6 Net margin 22.1 14.6 22.3 19.8 18.5 Other ratios 21.0 19.8 18.5 ROA (%) 40.8 31.4 22.0 18.9 16.8 Net gearing (%) (21.3) (30.6) (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5<	Year to Dec	FY16A	FY17A	FY18E	FY19E	FY20E
EBITDA 162.3 35.5 97.7 13.2 14.9 EBIT 210.5 38.0 107.7 11.2 13.1 Net profit 202.2 27.0 123.6 11.2 13.1 Fully diluted EPS 202.1% 45.9% 94.4% 9.7% 13.2% Margins (%) Gross margin (reported) 31.8 28.4 31.2 31.8 30.6 EBITDA 25.6 18.1 24.4 22.1 21.0 EBITD 23.1 16.7 23.6 21.0 19.6 Net margin 22.1 14.6 22.3 19.8 18.5 Other ratios ROE (%) 58.1 45.8 39.4 29.3 23.7 ROA (%) 40.8 31.4 22.0 18.9 16.8 Net gearing (%) (21.3) (30.6) (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5 4,746.2 4,435.6	Growth rate (%)					
EBIT 210.5 38.0 107.7 11.2 13.1 Net profit 202.2 27.0 123.6 11.2 13.1 Fully diluted EPS 202.1% 45.9% 94.4% 9.7% 13.2% Margins (%) 31.8 28.4 31.2 31.8 30.6 EBITDA 25.6 18.1 24.4 22.1 21.0 19.6 BBITDA 25.6 18.1 24.4 22.1 21.0 19.6 Net margin 22.1 14.6 22.3 19.8 18.5 Other ratios 31.4 22.0 18.9 16.8 ROE (%) 58.1 45.8 39.4 29.3 23.7 ROA (%) 40.8 31.4 22.0 18.9 16.8 Net gearing (%) (21.3) (30.6) (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5 4,746.2 4,435.6	Revenue	92.5	91.5	46.8	25.0	21.0
Net profit 202.2 27.0 123.6 11.2 13.1 Fully diluted EPS 202.1% 45.9% 94.4% 9.7% 13.2% Margins (%) 13.2% 13.2% Gross margin (reported) 31.8 28.4 31.2 31.8 30.6 EBITDA 25.6 18.1 24.4 22.1 21.0 19.6 Net margin 22.1 14.6 22.3 19.8 18.5 Other ratios 14.5 ROA (%) 40.8 31.4 22.0 18.9 16.8 14.9 14.9 16.7 Net gearing (%) (21.3) (30.6) (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5 4,746.2 4,435.6	EBITDA	162.3	35.5	97.7	13.2	14.9
Fully diluted EPS 202.1% 45.9% 94.4% 9.7% 13.2% Margins (%)	EBIT	210.5	38.0	107.7	11.2	13.1
Margins (%) 31.8 28.4 31.2 31.8 30.6 EBITDA 25.6 18.1 24.4 22.1 21.0 EBIT 23.1 16.7 23.6 21.0 19.6 Net margin 22.1 14.6 22.3 19.8 18.5 Other ratios ROA (%) 58.1 45.8 39.4 29.3 23.7 ROA (%) 20.3 30.6 (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5 4,746.2 4,435.6	Net profit	202.2	27.0	123.6	11.2	13.1
Gross margin (reported) 31.8 28.4 31.2 31.8 30.6 EBITDA 25.6 18.1 24.4 22.1 21.0 EBIT 23.1 16.7 23.6 21.0 19.6 Net margin 22.1 14.6 22.3 19.8 18.5 Other ratios ROE (%) 58.1 45.8 39.4 29.3 23.7 ROA (%) 40.8 31.4 22.0 18.9 16.8 Net gearing (%) (21.3) (30.6) (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5 4,746.2 4,435.6	Fully diluted EPS	202.1%	45.9%	94.4%	9.7%	13.2%
EBITDA 25.6 18.1 24.4 22.1 21.0 EBIT 23.1 16.7 23.6 21.0 19.6 Net margin 22.1 14.6 22.3 19.8 18.5 Other ratios ROE (%) 58.1 45.8 39.4 29.3 23.7 ROA (%) 40.8 31.4 22.0 18.9 16.8 Net gearing (%) (21.3) (30.6) (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5 4,746.2 4,435.6	Margins (%)					
EBIT 23.1 16.7 23.6 21.0 19.6 Net margin 22.1 14.6 22.3 19.8 18.5 Other ratios 8 8 18.5 39.4 29.3 23.7 ROE (%) 58.1 45.8 39.4 29.3 23.7 ROA (%) 40.8 31.4 22.0 18.9 16.8 Net gearing (%) (21.3) (30.6) (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5 4,746.2 4,435.6	Gross margin (reported)	31.8	28.4	31.2	31.8	30.6
Net margin 22.1 14.6 22.3 19.8 18.5 Other ratios ROE (%) 58.1 45.8 39.4 29.3 23.7 ROA (%) 40.8 31.4 22.0 18.9 16.8 Net gearing (%) (21.3) (30.6) (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5 4,746.2 4,435.6	EBITDA	25.6	18.1	24.4	22.1	21.0
Other ratios S8.1 45.8 39.4 29.3 23.7 ROA (%) 40.8 31.4 22.0 18.9 16.8 Net gearing (%) (21.3) (30.6) (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5 4,746.2 4,435.6	EBIT	23.1	16.7	23.6	21.0	19.6
ROE (%) 58.1 45.8 39.4 29.3 23.7 ROA (%) 40.8 31.4 22.0 18.9 16.8 Net gearing (%) (21.3) (30.6) (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5 4,746.2 4,435.6	Net margin	22.1	14.6	22.3	19.8	18.5
ROA (%) 40.8 31.4 22.0 18.9 16.8 Net gearing (%) (21.3) (30.6) (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5 4,746.2 4,435.6	Other ratios					
Net gearing (%) (21.3) (30.6) (17.9) (20.7) (26.1) Interest coverage (x) 2,187.5 3,772.9 5,337.5 4,746.2 4,435.6	ROE (%)	58.1	45.8	39.4	29.3	23.7
Interest coverage (x) 2,187.5 3,772.9 5,337.5 4,746.2 4,435.6	ROA (%)	40.8	31.4	22.0	18.9	16.8
e ()	Net gearing (%)	(21.3)	(30.6)	(17.9)	(20.7)	(26.1)
Pageirobles days 22.0 42.0 54.0 52.4 52.4	Interest coverage (x)	2,187.5	3,772.9	5,337.5	4,746.2	4,435.6
Necelivables uays 32.9 43.0 34.9 53.1 53.1	Receivables days	32.9	43.0	54.9	53.1	53.1
Payables days 18.1 19.2 46.1 46.1 46.1	•	18.1	19.2	46.1	46.1	46.1
Inventory days 24.7 33.0 228.2 228.2 228.2	Inventory days	24.7	33.0	228.2	228.2	228.2
Effective tax rate (%) (3.2) 9.9 5.5 5.5 5.5	Effective tax rate (%)	(3.2)	9.9	5.5	5.5	5.5

Source: Company data, CIRL estimates





Source: Bloomberg, CIRL



	code		THEC .	Share Price Mov	/ement (%)			PER (x)			i iei	ld (%)			
	code	(HKD mn)	(HKD)	3M	YTD	FY16	FY17	FY18E	FY19E	FY20E	FY16	FY17	FY18E	FY19E	FY20E
ES- SMT/ automation plays															
SM PACIFIC	522 HK	33,689	83.30	(16.2)	(23.5)	23.1	12.1	11.9	11.3	10.3	2.3%	3.0%	3.5%	3.7%	4.0%
AITIAN INTL	1882 HK	28,536	17.88	(1.5)	(23.9)	15.8	12.3	11.2	10.0	9.2	2.2%	2.8%	3.1%	3.5%	3.8%
-NET TECHNOLOGI	877 HK	3,205	4.00	(13.4)	(20.0)	22.2	14.3	11.2	8.8	7.2	0.0%	0.0%	0.6%	0.7%	0.0%
VUHAN JINGCE E-A	300567 CH	12,722	77.76	(14.7)	2.2	83.2	65.1	36.5	26.7	20.3	0.3%	0.4%	0.8%	1.0%	1.1%
HENZHEN JT AU-A	300400 CH	4,497	18.47	19.1	20.8	73.5	48.5	32.5	24.4	18.8	0.4%	0.0%	0.8%	1.0%	0.0%
ALIAN ZHIYUN-A	300097 CH	4,201	14.56	(31.7)	(55.1)	35.6	20.3	11.2	8.5	7.2	0.2%	0.5%	0.5%	0.8%	0.7%
HENZHEN LIAND-A	300545 CH	2,937	20.38	(22.7)	(45.3)	52.8	44.7	14.6	12.6	9.8	0.6%	0.6%	1.0%	1.2%	1.5%
UANGDONG ZHEN-A	300410 CH	4,992	25.47	(4.7)	(36.2)	48.4	21.0	13.6	10.6	8.9	0.3%	0.5%	0.0%	0.0%	0.0%
SM INTL NV	ASM NA	22,556	400.66	6.6	(14.5)	20.9	5.9	13.1	11.0	9.7	1.5%	1.8%	2.0%	2.1%	2.3%
CERRA CORP	XCRA US	6,142	111.84	3.6	45.8	68.6	34.3	13.7	12.5	11.0	0.0%	0.0%	0.0%	0.0%	0.0%
ERADYNE INC	TER US	53,961	289.43	(2.4)	(11.8)	-177.6	28.6	17.7	14.1	11.9	0.6%	0.8%	1.0%	1.1%	1.2%
ULICKE & SOFFA	KLIC US	12,535	185.51	0.0	(2.7)	35.7	15.1	10.3	9.9	8.9	0.0%	0.0%	1.5%	2.0%	2.0%
OHU INC	COHU US	7,714	189.59	1.5	10.2	222.0	20.6	13.6	9.7	8.5	1.0%	1.0%	0.0%	0.0%	0.0%
OCKWELL AUTOMAT	ROK US	182,969	1,485.57	13.4	(3.5)	34.2	29.7	23.7	21.1	19.4	1.5%	1.6%	1.8%	1.9%	1.9%
TS AUTOMATION	ATA CN	13,889	147.62	24.8	55.4	57.9	65.7	34.3	25.7	21.7	0.0%	0.0%	0.0%	0.0%	0.0%
OH YOUNG TECHNO	098460 KS	10,314	753.51	6.8	30.5	50.5	54.3	31.4	25.8	20.7	0.4%	0.6%	0.7%	0.8%	0.9%
EM INTLAB-B	OEMB SS	4,341	187.36	16.2	21.5	23.7	22.2	-	-	-	2.7%	2.9%	0.0%	0.0%	0.0%
ITROX CORP BHD	VITRO MK	7,388	15.71	48.7	33.7	60.4	49.0	37.7	27.3	22.2	0.4%	0.5%	0.6%	0.9%	1.1%
NARI AMERTRON B	INRI MK	14,306	4.52	8.8	5.6	45.7	32.0	26.1	24.6	19.7	1.1%	1.7%	3.0%	3.3%	3.8%
LSOFT RESEARCH	ELSR MK	1,792	6.47	33.1	26.7	30.1	32.7	23.5	21.4	21.1	2.9%	3.4%	3.0%	3.4%	3.2%
HROMA ATE	2360 TT	14,711	35.50	(13.7)	(14.2)	32.5	21.6	17.9	15.2	13.4	2.2%	3.2%	3.8%	4.6%	5.4%
ANUC CORP	6954 JP	307,028	1,504.75	1.7	(19.2)	28.5	31.8	21.7	26.7	25.0	2.1%	1.9%	2.7%	2.3%	2.4%
ASKAWA ELECTRIC	6506 JP	63,440	237.88	(12.5)	(30.4)	43.5	43.3	21.2	18.3	17.2	0.5%	0.6%	1.3%	1.5%	1.7%
HK CO LTD	6481 JP	27,031	201.94	(8.3)	(30.7)	29.1	21.3	9.6	9.8	10.2	1.6%	1.5%	2.9%	3.0%	3.0%
DVANTEST CORP	6857 JP	33,046	165.59	5.2	15.0	66.8	28.5	26.5	13.4	13.1	0.8%	1.1%	1.2%	2.2%	2.2%
Average		35,118		1.9	(2.5)	50.2	31.0	20.2	16.6	14.4	1.2%	1.5%	1.8%	2.0%	2.3%

Source: Bloomberg, CIRL

Risk Factors

Downside risks include: 1) Slower than expected demand from telecommunication and automotive clients ; 2) Decreasing order backlog; 3) increasing market competition ; 4) FX loss ; 5) market liquidity



Rating Policy

	Rating	Definitior	1
	Buy	Outperfor	m HSI by 15%
Stock Rating	Neutral	Between -	15% ~ 15% of the HSI
	Sell	Underperf	form HSI by -15%
	Accumulate	Outperfor	m HSI by 10%
Sector Rating	Neutral	Between ·	10% ~ 10% of the HSI
	Reduce	Underper	form HSI by -10%
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Analyst Certification

I, Hayman Chiu, hereby certify that all of the views expressed in this report accurately reflect my personal views about the subject company or companies and its or their securities. I also certify that no part of my compensation was / were, is / are or will be directly or indirectly, related to the specific recommendations or views expressed in this report / note.

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