



Think Automation
Think Pentamaster

Pentamaster Corporation Berhad

MAY 2020

Innovate • Automate • Integrate

www.pentamaster.com.my

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Company Overview



Pentamaster Corporation Berhad (the "Company" or "Pentamaster") together with its affiliates and subsidiaries (the "Group" or "Pentamaster Group") provide automation technology and solution to multinational manufacturers including but not limited to the semiconductor, telecommunications, consumer electronics and automotive sectors, spanning across APAC, North America and Europe.

- **Headquarter: Penang, Malaysia**
- **Founded: 1995**
- **The parent company, Pentamaster Corporation Berhad ("PCB"), is listed on Bursa Malaysia Stock Exchange, stock code: PENT.MK (Bloomberg).**
- Two main revenue contribution of the Company are:

1. Automated test equipment

- FY2017: 85.6%, MYR232.6mn / HKD440.3mn*
- FY2018: 84.8%, MYR337.9mn / HKD639.6mn*
- FY2019: 86.7%: MYR422.5mn / HKD799.7mn*
- Q12019: 85.2%: MYR99.4mn / HKD178.9mn*
- Q12020: 66.2%: MYR66.2mn / HKD119.2mn*

2. Factory automation solutions

- FY2017: 14.4%: MYR39.0mn / HKD73.8mn*
- FY2018: 15.2%: MYR79.2mn / HKD149.9mn*
- FY2019: 13.3%: MYR64.6mn / HKD122.3mn*
- Q12019: 14.8%: MYR17.3mn / HKD 31.1mn*
- Q12020: 33.8%: MYR33.8mn / HKD60.8mn*



Market leader in Malaysia in terms of revenue and profit with high growth amongst listed companies on Bursa Malaysia in the back-end semiconductor ATE market



- **Consecutively 3 years in a row (2017, 2018, 2019) ranked in the top 200 Forbes "Best Under a Billion"** list of companies that are publicly listed in APAC
- **"Highest Growth in Profit After Tax Over Three Years" and "Highest Returns to Shareholders Over Three Years"** for the technology sector in THE EDGE's Billion Ringgit Club ("BRC") award 2019



Ability to innovate and deliver high value-add integrated products and solution

- As at 31 March 2020, total headcount of **575** with more than 450 in-house engineers
- following completion of the second new production plant with a gross floor area of approximately 97,033 sq.ft., the Group production plant's total gross floor are is now estimated to be more than 180,000 sq.ft. and the Group expects more delivery of projects involving large-scale factory automation lines going forward
- aggressively ventured into medical segment via the acquisition of TP Concept Sdn Bhd that is into manufacturing and assembling of medical machines and manufacturing of die casting parts.
- able to deliver products and solution within relatively short lead time of 8 to 12 weeks in general



High visibility of secured purchase orders given the nature of business proposition that is mainly in new "features" product launch

*Note: translation of US\$ to MYR and MYR into HKD and vice versa are made in this document, for illustration purposes only, at the rate of US\$1.00 to MYR4.31

Company Overview (cont'd)



Headquarter located at Bayan Lepas, Penang, Malaysia.

- 90,310 sq ft., Design center, prototyping, small to large volume build



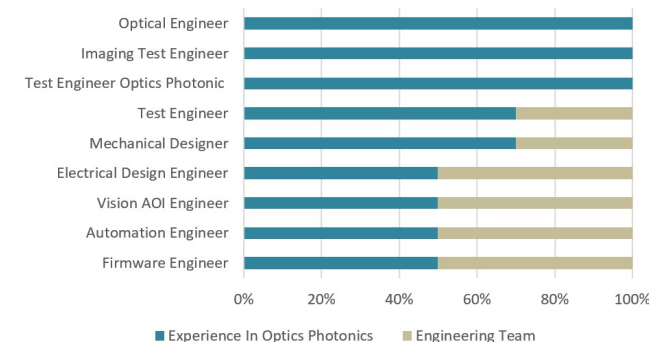
Pentamaster's second plant located at Batu Kawan, Penang, Malaysia.

- 97, 033 sq ft., High volume machine build, and equipment contract manufacturing

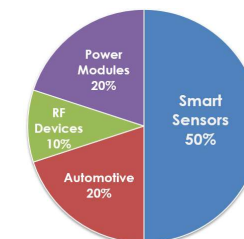
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- 6,000+ Projects Deployed
- 570+ Employees
- 450+ Engineering R&D Staff
- Key Market Segment
 - Semiconductor
 - Telecommunications
 - Automotive
 - Medical Device
- Key Competencies
 - Mechanical Design
 - Smart Automation Programming
 - Vision AOI
 - Imaging Test
 - Optics Photonics Test
 - Electrical Test
- Optics Photonics Test Solution
 - 600+ systems delivered
 - Recognized by world leader customers
 - Has latest 3D smart sensing test technology
- 90% Repeat Customers

Resources With Relevant Skills In Optics Photonics

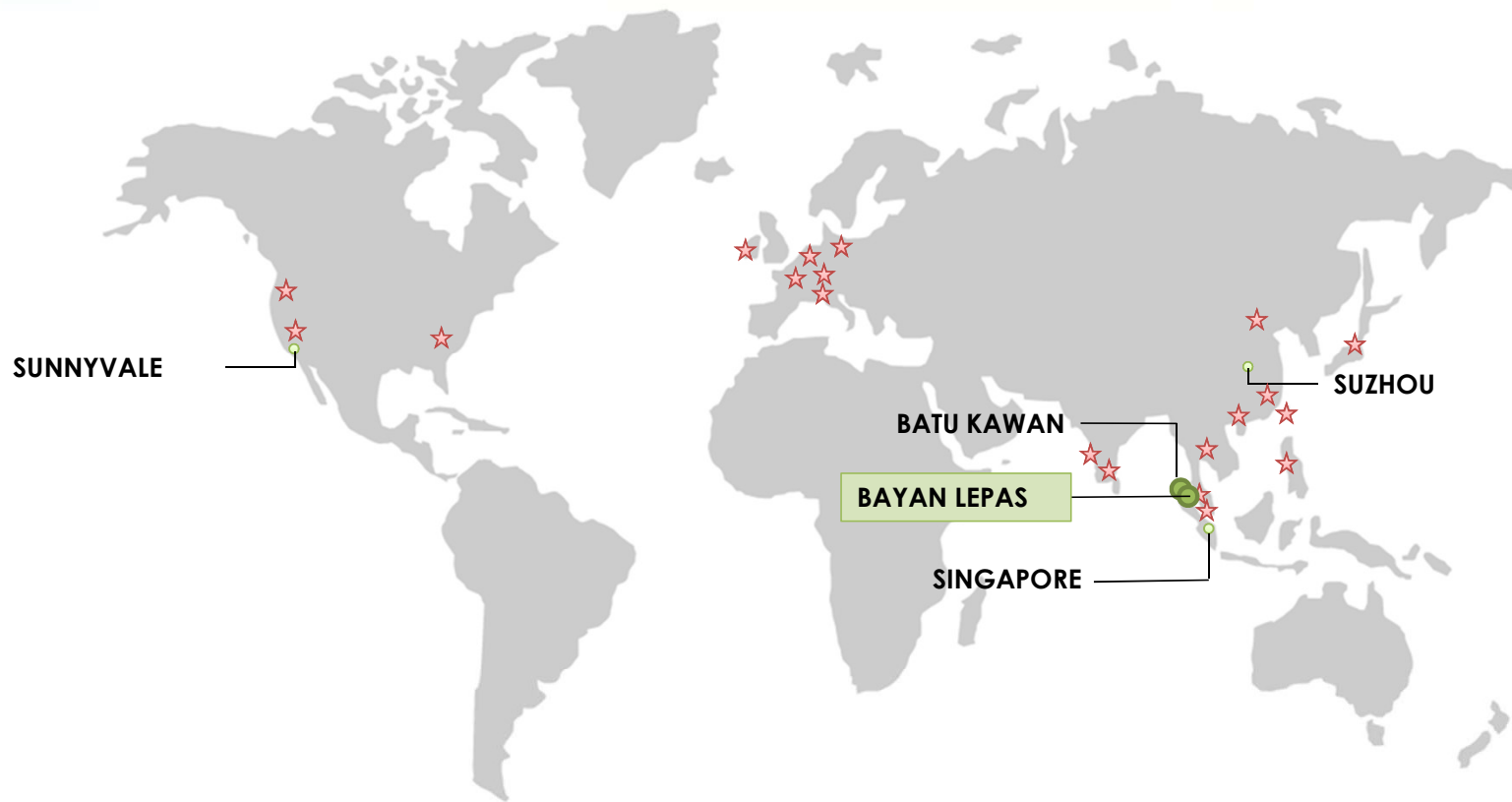


Average approx. 65% of engineering resources are experienced in their engineering field supporting optics photonics tester design.



50% of 2019 revenue contributed by optics photonics segment.

Worldwide Presence

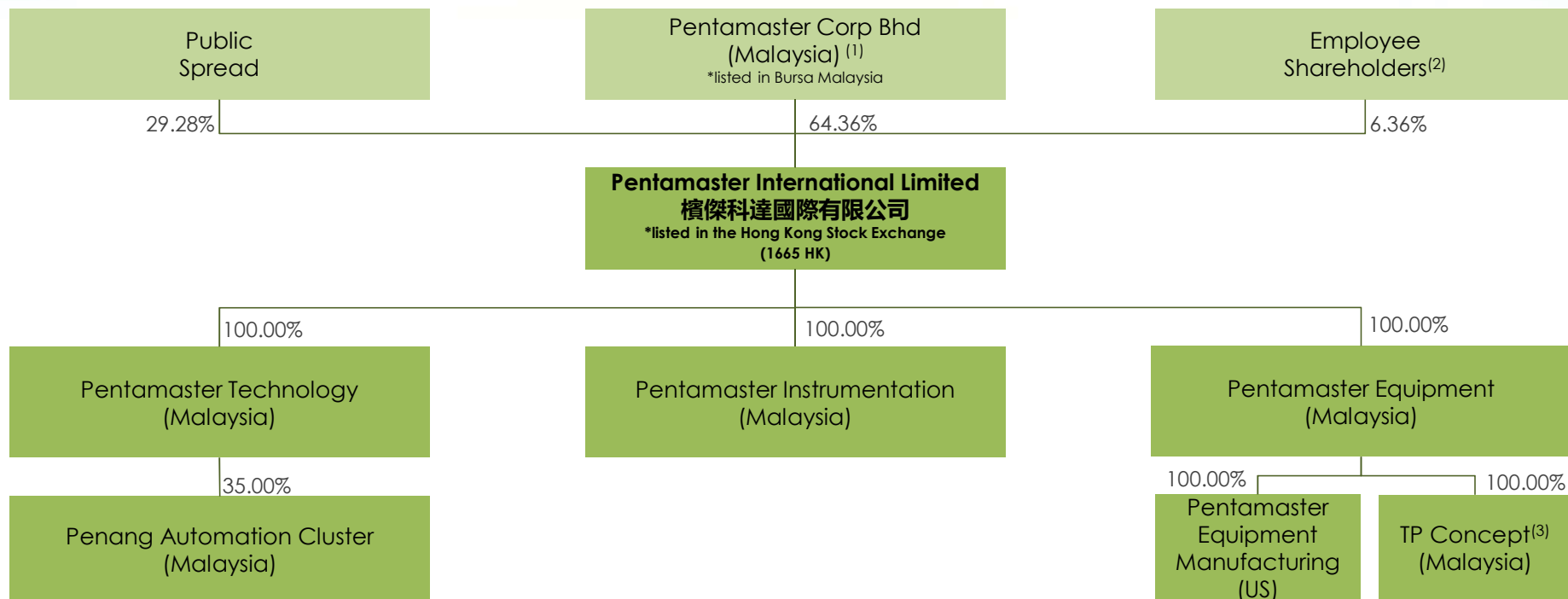


Presence

- Offices
- Manufacturing Facilities
- ★ Project Deployed

Organization Structure

The following chart sets forth the Company's corporate and shareholding structure as at **31 March 2020**



*Note: 1. Pentamaster Corp Bhd is listed on the Main Market of Bursa Malaysia under stock code 7160 (PENT MK).

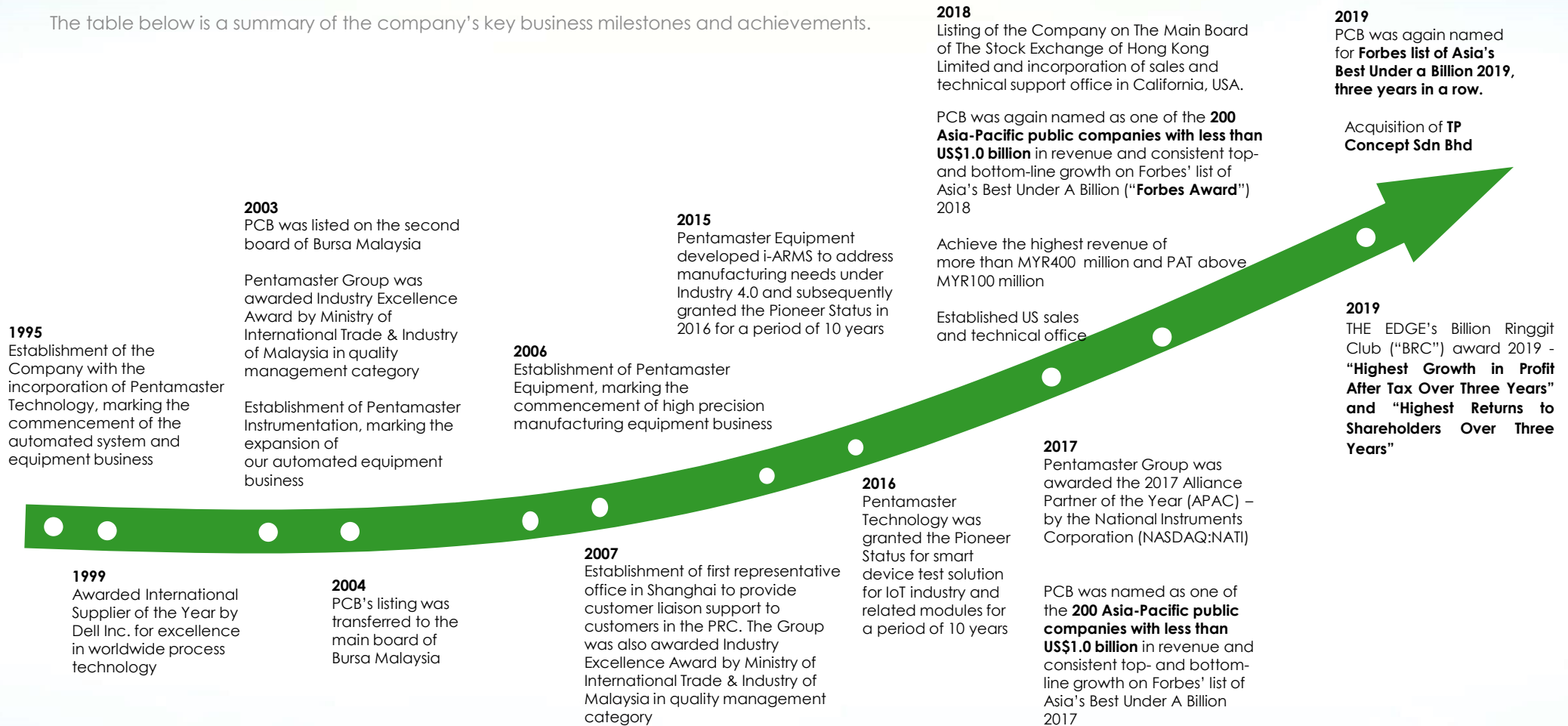
2. There are approx. 200 Employee Shareholders, two of whom are Company's Directors, namely Mr. Chuah and Ms. Gan.

3. On 26 September 2019, PIL entered into a share sale agreement with all the existing shareholders of TP Concept to acquire 100% equity interest in TP Concept. The conditions for completion of the share sale agreement have been fulfilled and the completion of the acquisition took place on 27 September 2019. TP Concept principal activity is manufacturing and assembling of medical machines and manufacturing of die casting parts.

Milestones



The table below is a summary of the company's key business milestones and achievements.



Awards & Recognition



- “Highest Growth in Profit After Tax Over Three Years” and “Highest Returns to Shareholders Over Three Years” for the technology sector in THE EDGE’s Billion Ringgit Club (“BRC”) award 2019

- **Top 200 Forbes** “Best Under a Billion” list of companies that are publicly listed in APAC – 2017, 2018, 2019



- Malaysia Best Under Billion Awards 2018 (Focus Malaysia):-
 - **Overall Winner**
 - **Best Revenue Growth**
 - **Best Enterprise Value**



- Malaysia Best Under Billion Awards 2017 (Focus Malaysia)



Our Solution



Broadly our offered solution comprise two (2) segments, namely **Automated Test Equipment (“ATE”)** and **Factory Automation Solutions (“FAS”)**

Solution Offering

Automated Test Equipment

Semiconductor Electronic Components Testing Solution

- MEMS & SMART Sensor Test Solutions
 - a. Semiconductor and MEMS Sensor
[Discrete and IC Test , MEMS Microphone , RF Device , Power Device , Power Module , Gyro Motion Sensor]
 - b. Optics & Photonics Sensor
[Structured Light 3D Sensor, Humidity Sensor, Pressure Sensor, Proximity Sensor, Time of Flight Sensor, Wafer Level VCSEL, Active Alignment, Ambient Light Sensor, Image Sensor, spectrum sensor]
- Automated vision inspection handler
- Intelligent sortation system

End-product Test Solutions

- LED Burn-in and Test**
[LED Test & burn-in Handler, LED Burn-in Oven Handler, Constant Current Rack Module]
- Customized Test Solutions for Consumer & Electronic product**
[Consumer Appliances Test Solution, Smart Card Biometric Solution]

Pentamaster Technology
(Malaysia)

Pentamaster Instrumentation
(Malaysia)

Factory Automation Solutions

FAS Module

- Material handling equipment
- High-speed sorters
- Assembly & test modules
- Manufacturing executive system (MES)

i-ARMS Solution

- Automated assembly system for food tray
- Automated conveying, boxing, weighting, sortation, storage and palletising system
- Vacuum cleaner filter automated assembly solution

Pentamaster Equipment
(Malaysia)

Pentamaster Equipment
Manufacturing
(US)

TP Concept
(Malaysia)

Products – Automated Test Equipment



Standardized and customized standalone automated equipment for (i) semiconductor electronic components testing for smart sensors and ICs (integrated circuits); and (ii) end products testing for consumer electronics, telecommunications products and LEDs.

Category	Semiconductor Electronic Components Testing Solution			
Products and Solution	MEMS & Smart Sensor Test Solutions	Automated Vision Inspection Handler Solutions	Intelligent Sortation System	End-products Test Solutions
Test Subjects	Optoelectronics, light, temperature, sound, distance, pressure and humidity	Dimension, shape, position and visual defects	Electrical functional parameters	LED burn-in and test structures, failure and functional test

- The end product test solutions provide integrated systems, comprising electronic hardware (i.e. testing machines), firmware and software, to perform various tests on electrical and electronic end products. These products and solution are customized according to the tests and the device under test required.



MEMS microphone test handler



Structured Light 3D Sensor Test Handler



Power Module Handler



Optical VCSEL Wafer Test Handler



Time of Flight (ToF) 3D Sensor Handler

Products – Factory Automation Solutions

The Group customizes and automates manufacturing processes by integrating automated assembly and test modules, material handling equipment, robotics technology, auto inspection and manufacturing executive system. i-ARMS is a comprehensive factory automation system that integrates various combinations of FAS modules with other technology components such as vision devices, sensor devices and RFID. FAS modules offer diverse automated functions which can be applied to different processes in a manufacturing line. FAS modules can be broadly categorized as manufacturing executive system, test modules, high-speed sorters and material handling equipment.

i-ARMS solution



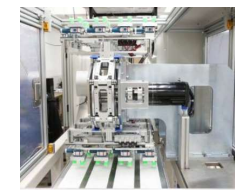
Intelligent Conveyor System Roller Conveyor Belt Conveyor Plastic Chain Conveyor Sortation System	RFID RFID & Data Tracking Solution	MES SMS (Shopfloor Management System) WMS (Warehouse Management System) CMMS (Computerized Maintenance Management System)	Robot System & Services Pick & Place Dispensing Assembling Auto Palletizing Packaging	Vision Inspection & Guidance System QA/QC Inspection Robotic Guidance
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Power Roller Conveyor



Motorised Lifter



Automated Assembly and Test Modules



Latest 3D Product Solutions

The Group's One Stop Solution for 3D Sensors Active Alignment Assembling solution that comprises of 6-Axis Alignment Stage for modules assembling, inline UV curing, High precision glue dispenser, Vision guided pick & place handler with Advance AOI System



Active Alignment Collimator Module

Active align and assemble Laser and Lens modules



Active Alignment DOE Module

Active align and assemble DOE lens with VCSEL outer housing



Lens + Inner Housing Assembly

Active align and assemble Optical lens with VCSEL inner housing



Active Alignment Projector

Active align and assemble Collimator module with DOE module

Core Competencies

Advance Automation

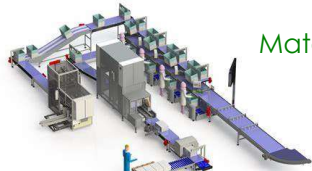


Handler, Sorting,
Active Alignment

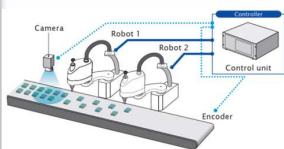
Inline System



Material Handling, AGV



Integrated
Production Solution



Vision Guided
Robotic Handling,
Assembly, AOI

Cloud connected
IoT devices
Web HTTPS / Mobile interface
Analytics



High Technological Competencies Skill



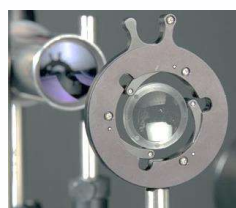
Mechanical
Automation
Electrical
Test Instruments
Firmware
Vision AOI



Imaging
Optics Photonics
PCB Design
Toolmakers
Production



Handler Automation

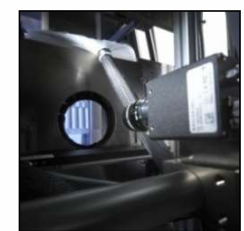


Imaging Test

Innovative Experience



Prototyping
Fast Turn Around
Onsite Engineering



Labs
Complete
Engineering Analysis
Tools



Process Knowhow,
Project Management,
Ramp Support,
Production Support

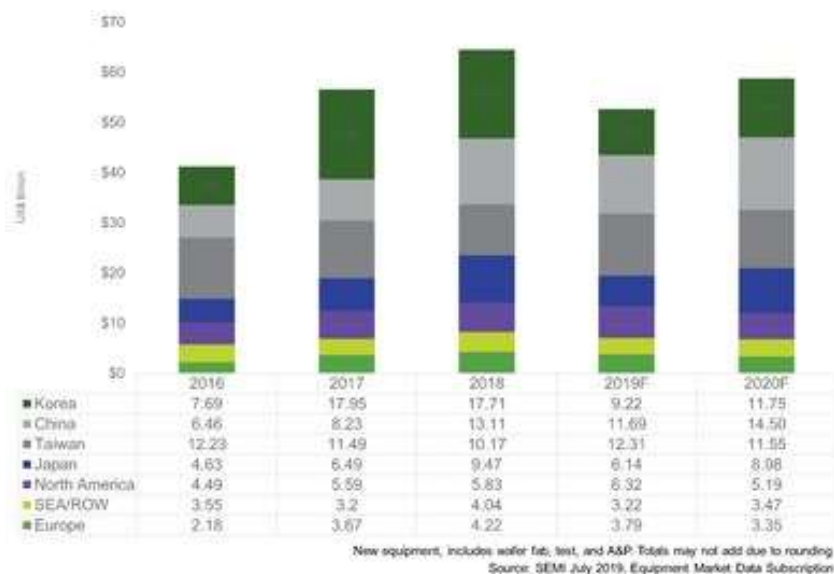


Modular Design,
Reusable hardware
and software. Test
cell, SemiAuto
system, and
production system
correlation.

Chapter Two: Industry Overview

Semiconductor Equipment Forecast

Worldwide sales for semiconductor equipment manufacturers closed 2019 with sales totalling \$59.8 billion in 2019, registering a **drop of 7%** from the all-time high of \$64.5 billion in 2018, according to SEMI. Sales of wafer processing equipment, assembly and packaging along with test equipment sales **fell 6%, 27% and 11%** respectively, with the exception of sales to China where it rose across all major equipment segments. In 2019, Taiwan claimed the largest market for new semiconductor equipment with sales totalling \$17.12 billion, followed by China with sales totalling \$13.45 billion. Barring the current pandemic situation, the semiconductor equipment business is expected to bounce back and grow by **7.3%** in 2020, according to VLSI Research.

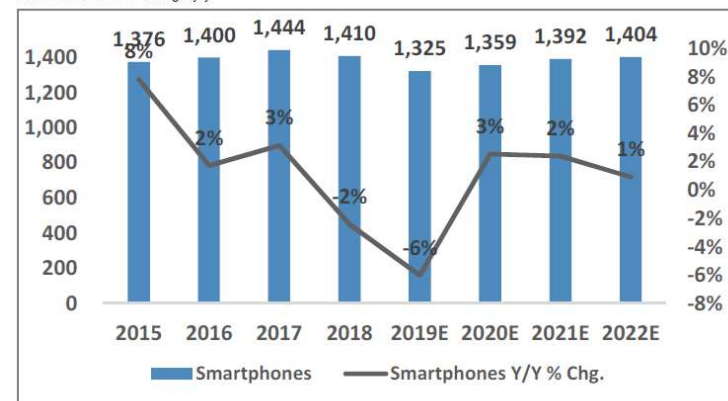


Meanwhile, electric vehicle (EV) sales worldwide could drop from 2.2 million in 2019 to 1.3 million by the end of this year, according to a new projection. Market researchers attribute this expected **43% drop** in part to the novel coronavirus outbreak, which is affecting automotive manufacturing.

The recent analysis by Wood Mackenzie noted that "the coronavirus outbreak, potential delays to fleet purchasing due to lower oil price, and a wait-and-see approach to buying new models have all contributed to this decrease in projected sales."

Global Smartphone Market Forecasts

mn of units and % change y/y



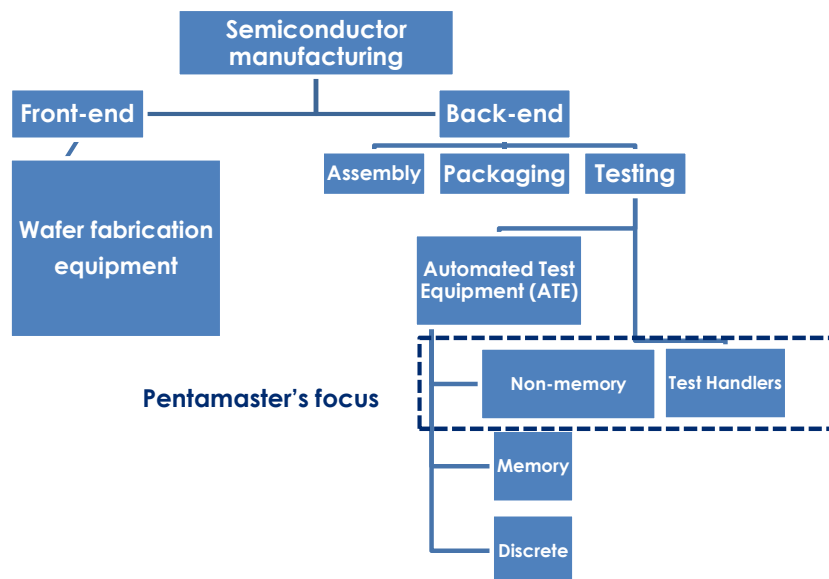
Source: J.P. Morgan estimates.

Meanwhile, global smartphone market **declined 13%** year-on-year as of Q1 2020 with the current Covid-19 pandemic. It was also the first time since Q1 2014 that the smartphone market has fallen below 300 million units in a quarter. The decline was mainly led by a **27% year-on-year shipment decline in China**. However, the bright spot was the 5G smartphone shipment share where it increases to **8% vs 1%** in Q4 2019. Additionally the Chinese smartphone market has somewhat rebounded in April 2020, showing a year-on-year **increase of 14%**.

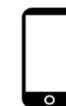
The Global Back-End Semiconductor ATE Market

The Group involved in the non-memory ATE and test handlers markets. Test handlers are estimated to constitute about 10.0% to 12.0% of the back-end test equipment market.

The figure below is a summary of front-end and back-end segmentation of the semiconductor manufacturing processes:



Key drivers



Telecommunications

- ✓ In a typical smartphone, there are generally at least 5 sensor modules
- ✓ Major manufacturers such as Apple, Samsung, Oppo and Huawei launch new smartphone products at least once a year
- ✓ The shorter product cycles will likely result in an unprecedented demand for ATEs



Automotive

- ✓ Revenue from semiconductor ICs in the automotive sector amounted to US\$22.9 billion in 2016, with an expected CAGR of 10.3% for 2015 to 2020 ^{*(1)}
- ✓ at least 2.1 mn EVs on the roads worldwide in 2018, with the PRC and the U.S. accounting for 56.3% and 17.0% ^{*(2)}



Medical devices

- ✓ The ageing population constitutes 13.0% of the global population in 2017 and this equates to approximately 962 million people aged above 60 years ^{*(3)}
- ✓ Advancements in medical electronics have enabled remote and real-time patient data collection, where semiconductor ICs will play a major role in the healthcare industry

Sources:

(1) "IoT and Automotive to Drive IC Market Growth Through 2020", IC Insights, accessed June 2017, (2) "Electric Vehicle Sales: Facts and Figures", Edison Electric Institute, April 2019, (3) "World Population Prospects: The 2017 Revision, Key Findings and Advance Tables", Department of Economic and Social Affairs, Population Division (2017), United Nations

Chapter Three: Investment Highlights

Investment Highlights

- 1** The Group has over 550 headcounts with growth in revenue of more than 90% in FY2016 and FY2017, follow by the growth in revenue of 53.5% in FY2018, and 16.8% in FY2019
- 2** High visibility of secured purchase orders given the nature of business proposition
- 3** Growth in revenue is mainly underpinned by the broadening exposure of the Group in 3D sensing technology in VCSEL and its efforts in diversifying its expertise across other business segments and customers, as well as growth driven by the telecommunications and automotive sectors and the adoption of Industry 4.0 revolution in the consumer and industrial products segment. Aggressive expansion into the medical segment via acquisition of TP Concept Sdn Bhd
- 4** Consecutively for 3 years in a row, the Group was honored to be listed on Forbes' "Asia's 200 Best Under A Billion company" - for 2017, 2018 & 2019 + other awards and accreditation since 2017

5 Strong financial ratio and has been improving over the past few years

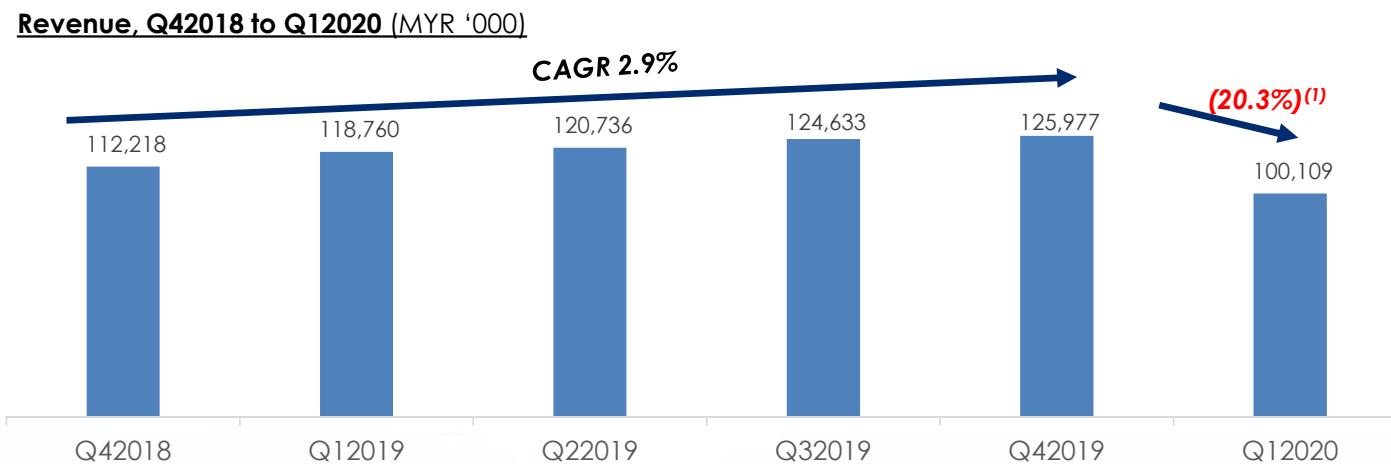
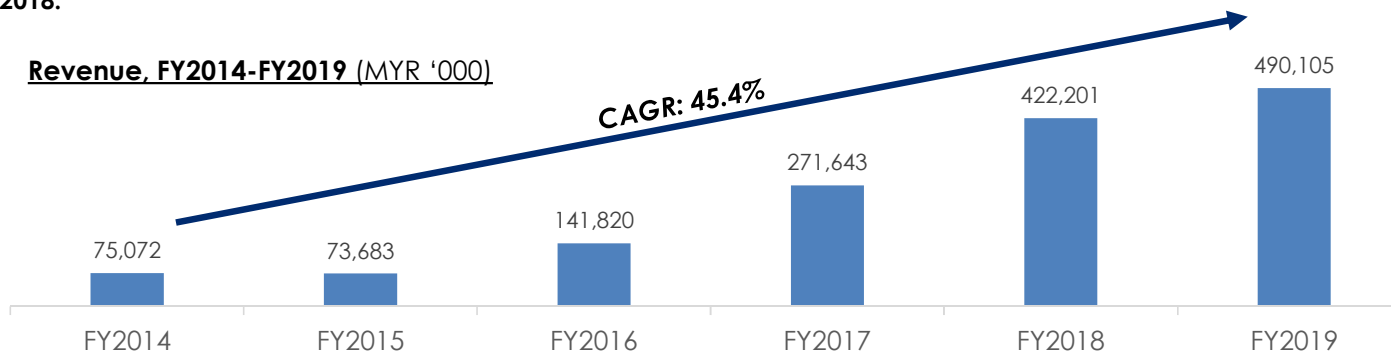
6 Strong and stable management team with extensive technology expertise and industry experience



High Growth



The Group continuously achieved record-breaking revenue and PAT since 2015 to 2019, with CAGR >45% and >65%, respectively. The solid result generated in FY2019 arises from the Group's consistent focus on its business strategies with its key strengths in designing and developing holistic customised automation and test solutions backed by a dedicated team of management team and employees. **For FY2019, the Group's revenue has increased by 16.8% as compared to the Group's revenue in FY2018.**



Note (1): The decrease in revenue from Q42019 to Q12020 was mainly due to project "push-out" where travelling restriction imposed globally from the COVID-19 situation that affected the Group's operations

Key Financial Ratios

Besides the tremendous growth in revenue, the quality of Pentamaster's financials are improving over the past few years.

	31 December				Quarter 1 (31 March)	
	2016	2017	2018	2019	2019	2020
Gross Profit Margin	31.8%	28.4%	32.7%	36.8%	35.3%	34.1%
Net Profit Margin (Adjusted)	23.9%	17.2% ⁽¹⁾	24.4% ⁽¹⁾	27.0%	25.9%	26.2%
Return on Equity (ROE)	39.0%	36.6%	31.8%	29.9%	34.5%	22.5%
Return on Total Assets (ROA)	26.7%	16.0%	20.4%	23.7%	23.3%	17.8%
Current Ratio	2.1x	1.5x	2.4x	3.9x	2.6x	4.0x
Quick Ratio	1.6x	0.7x	1.6x	3.4x	1.9x	3.6x
Inventory Turnover Days	45.5	130.6	168.7	117.1	150.5	60.3
Debtors' Turnover Days	57.7	43.4	35.6	34.7	24.4	68.5
Creditors' Turnover Days	35.5	32.7	40.9	26.2	39.9	31.9
Gearing Ratio	12.3%	9.1%	2.6%	0%	2.3%	0%
Debt to Equity Ratio	N/A	3.1%	1.1%	0.8%	1.0%	0.7%
Interest Coverage Ratio	2,186.9x	3,765.9x	561.5x	749.3x	743.8	719.4

Notes:

(1) Net profit margin (adjusted) is calculated based on the profit for the year excluding non-recurring listing expenses, divided by revenue during the year.

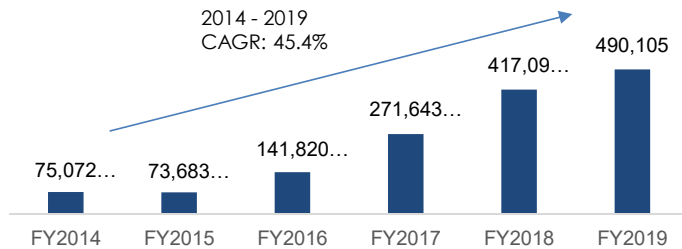
Chapter Four: Financial Information

Financial Information



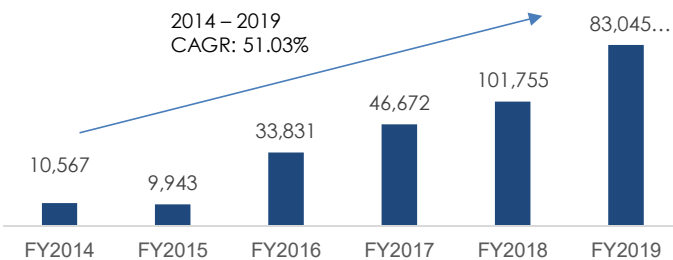
Revenue

MYR'000

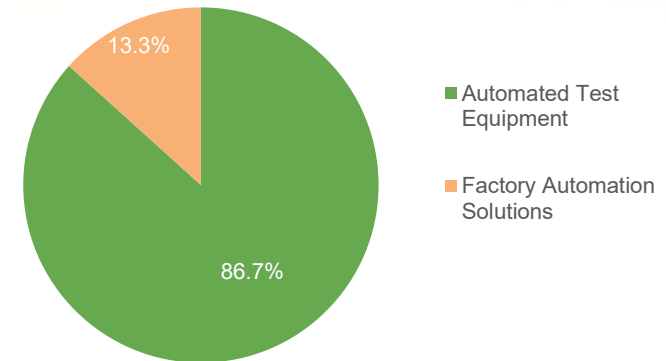


Profit for the year

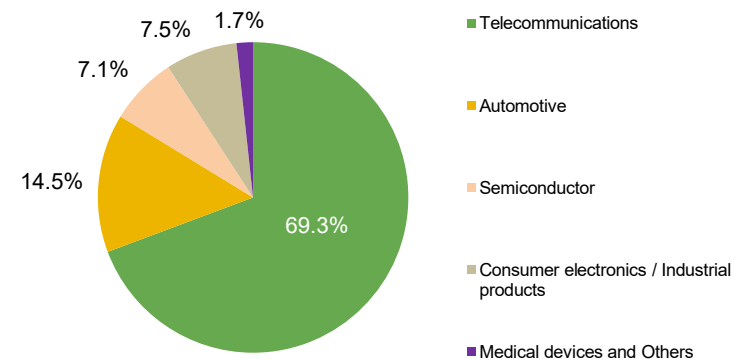
MYR'000
(HKD'000)*



Revenue by Segments (FY 2019)



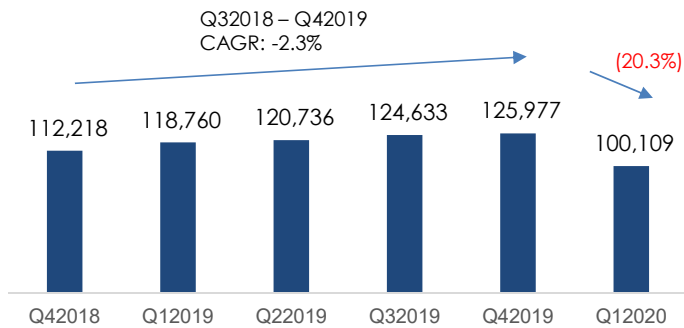
Revenue by Customers (FY 2019)



Financial Information (cont'd)

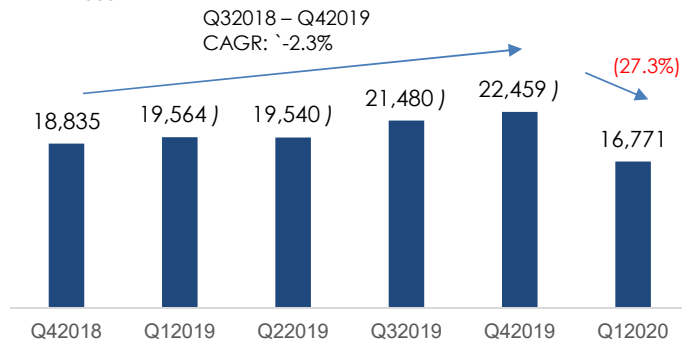
Revenue

MYR'000

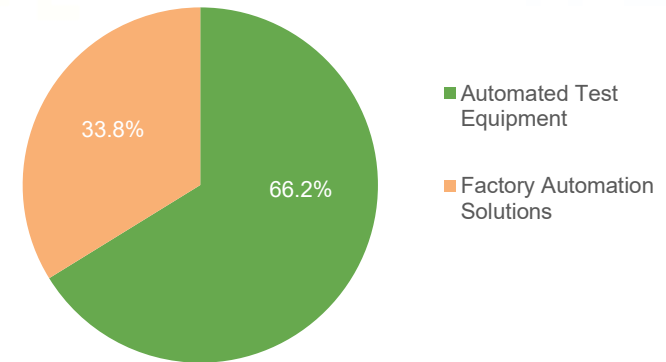


Profit for the year

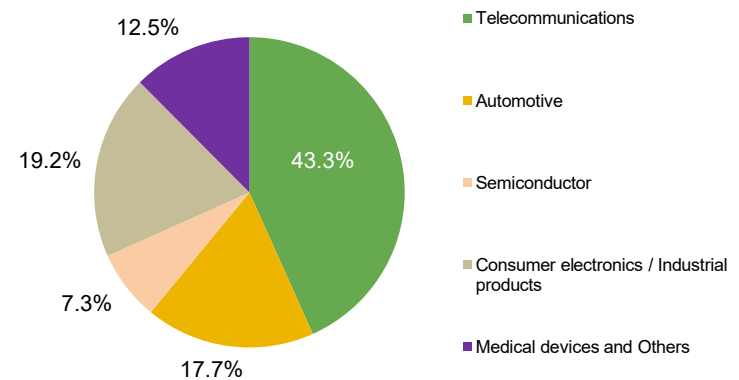
MYR'000



Revenue by Segments (Q12020)



Revenue by Customers (Q12020)



Chapter Five: Recent Corporate Developments

Latest News



Deferment of AGM

For the 1st time throughout the Company's history, the Annual Shareholders Meeting was deferred to 3rd June 2020 without the usual fan-fare given the Covid-19 outbreak

New Employees Performance Share Scheme

On 3rd April 2020, the Company announced the adoption of a new Employees Performance Share Scheme. This new 10-year scheme involved setting up an independent Trust to purchase Pentamaster International Limited (1665 HK) shares on the open market and to be vested to Selected Employees throughout the 10 year period based on Selected Employees meeting and fulfilling criteria and KPI

Involving up to 5% of the Company's paid up, this Scheme serves as part of the Group's employee retention program in retaining its existing Employees and to attract suitable personnel for further development of the Group.

Initiatives by Pentamaster to fight Covid-19

As part of the Company's ESG in fighting the current pandemic, Pentamaster is working on producing Low-Cost Ventilator to support local hospitals. The product is still in the prototyping stage and will be completed within four (4) weeks. The ventilator will be sent to local authorities for fast track certification. By building these low-cost ventilators, it will benefit Malaysia and other less developed countries that cannot afford expensive ventilators. The company anticipates of producing approximately 40 to 50 ventilators per month.

The ventilator was designed in-house with inputs from one of the Company's Board of Director, Dr Chuah Jin Chong. Going forward, this ventilator shall form a proprietary medical portfolio product of the Group.

Pentamaster Preventive Measures in Combating Covid-19



No Traveling / Visitation



NO Visitation
(Vendors, Customers)



NO Servicing



NO Traveling
(Business Trips, Holidays)



14 Days Quarantine
For Employees Returning
From Abroad



24/7 Customer Care

Sanitize Anywhere / Anytime



Pentamaster Preventive Measures in Combating Covid-19 (cont'd)



Body Temperature Check before Entering



Employees feeling unwell will be requested to seek treatment/return home.

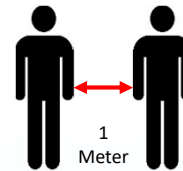
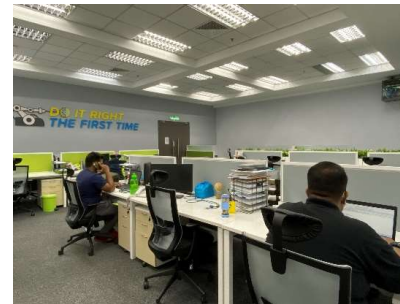


Workers/Vendors/Customers aren't allow to enter if Body Temperatures Exceed 38°C.



All Vendors are required to wear face masks upon entering.

Social Distancing



Investor Relations:

Gan Pei Joo, *Executive Director and CFO*: pjgan@pentamaster.com.my

Leng Kean Yong, *Non-executive Director*: yang@pentamaster.com.my

THANK

You



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