TECHNOLOGY

AmInvestment Bank

Company report

QES GROUP

(QES MK EQUITY, QESG.KL)

19 March 2019

Charts a steady course in ATE space

BUY

(Initiation)

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Rationale for report: Initiation

Price	**RM0.24**
Fair Value	**RM0.34**
52-week High/Low	RM0.38/RM0.17

Key Changes

Fair value	**Initiation**
EPS	**Initiation**

YE to Dec	**FY18**	**FY19F**	**FY20F**	**FY21F**
Revenue (RM mil)	193.1	199.1	226.6	244.1
Core net profit (RM mil)	14.1	16.4	21.1	22.5
FD Core EPS (sen)	1.9	2.2	2.9	3.1
FD Core EPS growth (%)	(6.4)	16.3	28.6	7.0
Consensus Net Profit (RM mil)	-	16.4	21.1	22.5
DPS (sen)	-	-	-	-
PE (x)	12.5	10.7	8.3	7.8
EV/EBITDA (x)	8.2	6.5	4.5	3.6
Div yield (%)	-	-	-	-
ROE (%)	21.0	17.1	18.4	16.5
Net Gearing (%)	nm	nm	nm	nm

Stock and Financial Data

Shares Outstanding (million)	758.3
Market Cap (RMmil)	182.0
Book Value (RM/share)	0.12
P/BV (x)	2.0
ROE (%)	21.0
Net Gearing (%)	-
Major Shareholders	Chew Ne Weng (33.7%)
	Liew Soo Keang (26.1%)
	Hong Leong Co Malaysia (4.1%)
Free Float	28.1
Avg Daily Value (RMmil)	1.5

Price performance	**3mth**	**6mth**	**12mth**
Absolute (%)	23.1	(20.0)	14.3
Relative (%)	19.8	(14.6)	25.6

Investment Highlights

- **We initiate coverage on QES Group (QES) with a BUY recommendation and a fair value of RM0.34/share based on FY19F PE of 15x, representing a 42% upside. To be conservative, we attach a 20% discount to its peer average forward PE of 18.9x to account for the group's lower income base.**

- **With an impressive profit CAGR of 30% in the equipment manufacturing segment from FY14-FY18, QES has room for a rerating, more so with the market's misconception that it is merely a distribution company.**

- **QES has 3 new products in the pipeline to drive its manufacturing segment. As these are fully automated equipment, they potentially command 4x higher selling price compared with semi-automated ones while enjoying 5-10ppt higher gross profit margin. We believe this development will translate into stronger revenue growth coupled with margin expansion as more semiconductor industry players upgrade to fully automated equipment.**

- **This trend is particularly evident among customers in the automotive semiconductor space. Stringent qualification processes necessitate the need for automation to eliminate human error and improve efficiency. With a development time frame of 1–2 years, we expect the new equipment to boost earnings significantly in FY2020.**

- **For FY19, earning drivers will be the existing fully automated post-wire bonding equipment which will continue to see higher demand, rising in tandem with the increasing complexity in chip packaging.**

- **QES' distribution segment, its bread-and-butter business, will continue to provide steady recurring income. This is supported by its strong distribution network in the Asean region. China will be the next target for growth, riding on the Chinese government's ambition for its semiconductor industry. Distribution accounts for 60% of total revenue.**

- **Currently, the facility is running at 97% utilisation rate. While the company has yet to indicate any expansion plans for the near term, we take comfort in its strong net cash position of RM38mil which will provide the group with the financial ability to expand its floor space when the need arises.**

- **QES is currently well undervalued, trading at 10.2x FY19F PE, representing a 46% discount to the peer average of 18.9x. In addition, the company's PEG of 0.6x is below the peer average of 0.9x.**

BUSINESS BACKGROUND

QES Group is principally involved in the distribution of inspection, test and measurement equipment such as microscopes and spectrometer catered to the electric and electronic (E&E) and automotive industries for accurate analyses of metal alloys. The company also distributes materials used in the semiconductor industry which includes quartz parts, grinding wheels and dicing tapes.

To complement its existing business, QES manufactures optical inspection and automated handling equipment that are used in the semiconductor industry. The equipment focuses on post-dicing inspection, post-probing inspection and post-wire bonding inspection. The company also bundles after-sales service such as training, repair and maintenance together with the sale of equipment.

QES was incorporated in Malaysia as a private limited company on 4 Oct 1991 and listed on the ACE Market of Bursa Malaysia on 8 March 2018. Currently, the company is helmed by Chew Ne Weng who is the managing director. Based on the latest filling dated 18 Sep 2018, Chew owns 33.7% of shares in QES while the executive director, Liew Soo Keang owns 26.1%.

Chew with four other partners founded the company, but over the years these four partners disposed of their stakes and left the company to pursue their own interest. Liew, a former schoolmate of Chew in Kolej Sultan Abdul Hamid, joined the company in 2000 as an executive director.

QES started distributing equipment locally and eventually expanded its regional footprint by setting up satellite offices and teaming up with local partners in the respective countries. Currently, the company has presence in Singapore, Thailand, Hong Kong, Vietnam and the Philippines

EXPANDING THE MANUFACTURING SEGMENT

❑ ***3 new products to drive earnings***

QES regularly improves its equipment to ensure it adheres to the stringent requirements of the semiconductor industry. Based on customer's feedback, the company identifies the necessary upgrades and features to be included in its line of equipment. Currently, the company is working on 3 new product lines to integrate these upgrades, notably the Fully Automated Vision Inspection System (FAVIS), Automated Wafer Packing System (AWPS) and Automatic Wafer Identification (AWID).

These 3 new product lines are to be developed over the next 24 months and funded by 16.8% of the IPO proceeds, amounting to RM4.85mil. As at 4QFY18, the company has utilised 32% of the proceeds allocated for product development.

EXHIBIT 2: NEW PRODUCTS

Product	Features	Time Frame	Funds allocated (RM mil)
FAVIS	Upgraded vision inspection system with full automation covering the wafer probing, dicing and wire bonding	2 years	2.25
AWPS	Improved wafer packaging system with automation with improved features such as optical character reader and	1 year	1.35
AWID	Upgraded wafer ID system with features such as a fully automatic batch wafer ID reader and ID server	1 year	1.25
			4.85

Source: Company

EXHIBIT 1: KEY MANAGMENT

Name	Experience	Position	Stake (%)
Chew Ne Weng	• 30 years of experience in the engineering industry. • Graduated from the National University of Singapore in 1987 with a Bachelor of Mechanical Engineering. • Started his career in 1987 as an engineer in Cairnshill Precision Private Limited, Singapore.	Co-founder and Managing Director	33.66
Liew Soo Keang	• 30 years of experience in the engineering industry. • Graduated from University of Malaya in 1987 with a Bachelor of Electrical Engineering (Honours) (First Class). • Started his career in 1987 as an equipment engineer in Intel Technology, specialising in semiconductor test equipment.	Executive Director	26.09
Yeoh Cheong Yeow	• Member of the MIA since 2001 and a member of the Association of Chartered Certified Accountants United Kingdom since 2000. • 25 years of experience in accounting and finance. Responsible for the group's overall finance functions including the monitoring of busines performance and results.	General Manager of Finance	0.02

Source: Company

❑ *Stringent qualification standards pushing adoption of fully automated equipment*

We are positive on the company's focus to develop fully automated equipment given the rising demand for hands-free operation, especially in today's highly competitive market. The short product life cycle of consumer electronics and the need for prompt delivery while maintaining a certain quality standard make it difficult to achieve without full automation.

Besides, the automotive industry in particular is known for its stringent qualification standards which are more demanding compared with most high-end consumer electronics (Exhibit 3). Such requirements necessitate the use of fully automated equipment to reduce human error and improve efficiency.

To ensure the highest reliability in a harsh automotive environment, auto makers must meet the AEC Q100 qualification standard defined by the Automotive Electronics Council (AEC). The standard recommends a set of stress test mechanism to ensure that all functions are still operating at optimal level given the change in temperature grades and conditions. This process is conducted by triggering possible failure measures in a rapid manner compared with standard automotive conditions.

EXHIBIT 3: AUTOMOTIVE VS COMMERCIAL TEST

Topic	Automotive	Commercial/Industrial
Stress Conditions	Depending on desired temperature grade Grade 0: -40°C to 150°C Grade 1: -40°C to 125°C Grade 2: -40°C to 105°C Grade 3: -40°C to 85°C Grade 4: 0°C to 70°C	Qualified to Grade 1, possibly accelerated
Electrical Test	Room temperature, and hot and cold temperature extremes per temperature grade	Room temperature
ESD-CDM	Corner pins = 750 V min. and all other pins = 500 Vmin. different test method and tester	All pins =250 V min.
Physical Dimensions	Cpk > 1.33 and Ppk >1.67 across all dimensions	Meet datasheet spec
Unique Stress Tests to Automotive Qualification	1. Power Temperature Cycle 2. Bond Pull after Temperature Cycle 3. Early Life Failure Rate	None
Composition of Qualification Lots	3 non-consecutive wafer lots, and 3 non-consecutive assembly lots for all qualification types	Wafer fab technology qualification = 3 wafer lots, and package qualification = 3 assembly lots

Source: Texas Instruments

EXHIBIT 4: AEC-Q100

Source: Panasonic

❑ *Fully automated equipment to command 4x higher selling price*

Fully automated equipment can command a selling price of up to 4x higher compared with semi-automated equipment. The estimated average price for a semi-automated equipment is around US$60,000. Currently, the company's flagship model is the PWB200V, a fully automated post-wire bonding inspection machine.

Competing in the same space as QES's upcoming products are Camtek and Rudolph Technologies (Rudolph). Both companies are based in the United States and are regarded as tier 1 suppliers for semiconductor equipment.

In the face of downward pricing pressure from customers, players in the outsourced semiconductor assembly and test (OSAT) space are slowly experiencing the struggle of maintaining their margins. Identifying the challenge of striking a fine balance between sacrificing profit margin and generating more revenue, QES aims to capitalise on this opportunity by developing equipment with comparable performance as its US competitors at a discounted price.

For comparison, a fully automated post-dicing inspection machine from Camtek or Rudolph costs around US$800K to US$1mil, whereas QES is looking at a selling price of approximately US$650K, representing a 35% discount.

QES has an office in Bayan Lepas, Penang to develop the software while hardware assembly and fabrication is housed in its Shah Alam facility. With a development time frame of 1 year, the company expects to have a beta version of the model by end-2019 while significant contribution to earnings is expected to kick in by 2020.

EXHIBIT 5: FULLY AUTOMATIC VISION INSPECTION SYSTEM (FAVIS)

Source: Company

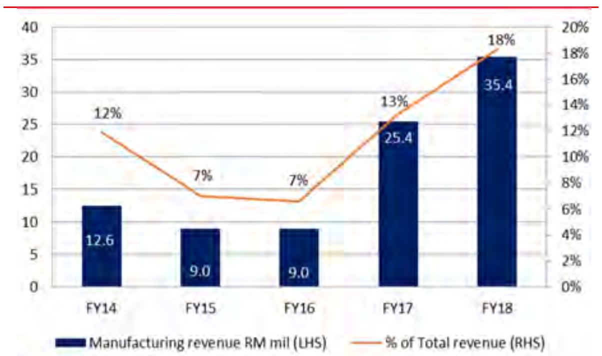
❑ *Fastest growing division with 30% CAGR from FY14-FY18*

Although 2017 was acknowledged as an exceptionally good year for the technology sector as a whole, FY18 revenue from the manufacturing segment managed to surpass FY17's performance amid the US-China trade war. QES recorded RM35.4mil in revenue from its equipment manufacturing segment, representing an astounding 30% CAGR from FY14 to FY18.

The strong performance was mainly attributable to a swing in the type of equipment shipped. Since 1HFY18, fully automated equipment accounted for most of the shipments which commanded higher margins compared with semi-automated equipment.

We expect QES to further benefit from the rising adoption of fully automated equipment in the semiconductor space, notably for post-dicing inspection and post-probing inspection, due to the increasing complexity in semiconductor packaging and the constant race towards scaling down of node size.

EXHIBIT 6: MANUFACTURING REVENUE



Source: Company

❑ *Utilisation rate*

Based on its utilisation rate, the company is running near its peak at 97% in FY18. This could hinder the development of the 3 new lines of products which require more than double the number of work cells, personnel and man-hours compared with its existing line of equipment. To mitigate this, the company has been outsourcing some of its fabrication and assembly processes to third-party engineers.

We see this as short-term solution due to slightly higher cost incurred compared with in-house assembly. As for now, the incremental cost is still negligible to the group as a whole. In the longer term, the company needs to expand its facility which will bring about more efficient workflow and larger capacity to accommodate a higher number of orders.

QES has the financial capability to take on further capital expenditure. With a healthy net cash position of RM32mil, it has room to gear up when the need arises for expansion.

EXHIBIT 7: UTILISATION RATE

Source: Company

❑ *Growing order book*

As of 4QFY18, QES has an outstanding order book of RM41mil, representing a 24% increase from RM33mil in its corresponding period in 4QFY17.

QES' order book usually translates into sales within a period of 3 to 4 months. While earnings visibility may seem short, the company has proven that it is able to replenish its order book on a timely basis due to its recurring business model. Out of the RM41mil outstanding order book, RM34mil come from the distribution segment while the manufacturing segment makes up the remaining RM7mil.

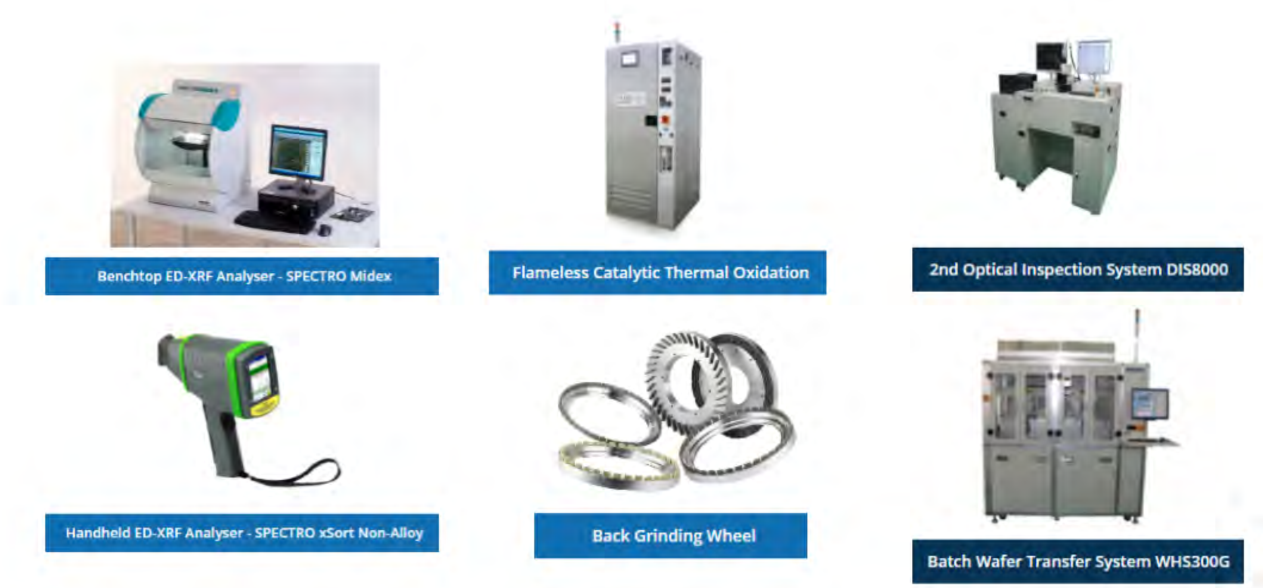
The company is still receiving requests for semi-automatic machines, although the recent trend suggests that fully-automated machines are gradually accounting for most of the manufacturing orders which are favourable for QES. Aside from commanding 4x higher average selling price (ASP), QES also enjoys higher gross profit margin of 25-30% from fully-automated machines compared with 15-20% from semi-automated ones.

EXHIBIT 8: BUSINESS SEGMENTS

	Distribution		Manufacturing
Principal activities	• Inspection, test and measurement equipment.	• Materials used in the semiconductor industry. • Engineering solutions.	• Manufacture and sale of optical inspection and automated handling equipment as well as AWMS
Products	• Inspection equipment such as microscopes. • Test equipment such as ED-XRF and WD-XRF analysers, ICP spectrometers and OES. • Measurement equipment such as video coordinate measuring systems.	• Materials and related parts used in the semiconductor industry such as quartz parts, conditioning discs, back grinding wheels, grinding and dicing tapes. • Equipment to control gaseous emissions from manufacturing facilities such as gas abatement system.	• Optical inspection equipment such as post wire bonding inspection systems, post dicing inspection system and post probing inspection systems. • Automated handling equipment such as wafer batch transfer system and printing and labelling systems • AWMS
Customer Industries	• Electrical & electronics industry • Automotive industry	• Semiconductor industry	• Semiconductor industry

Source: AmInvestment Bank Bhd, Company

EXHIBIT 9: PRODUCT RANGE



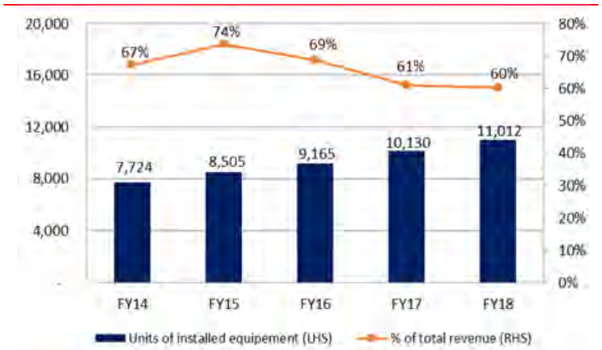
Source: AmInvestment Bank Bhd, Company

RECURRING INCOME STREAM FROM DISTRIBUTION SEGMENT

The distribution segment is the bread-and-butter business for QES, contributing more than half of the group's total revenue. The company supplies tools and small-scale equipment to established customers in the semiconductor, automotive and electrical and electronic (E&E) industries. The number of installed base equipment has been growing from 7,724 units in FY14 to 11,012 units in FY18, increasing by circa 800 units per year on average.

QES distributes a range of inspection, test and measuring equipment. The products include light-based optical microscopes, analytical instruments that perform elemental composition analysis of materials and precision metrology equipment that accurately measures dimension and tensile strength.

EXHIBIT 10: TOTAL DISTRIBUTED EQUIPMENT



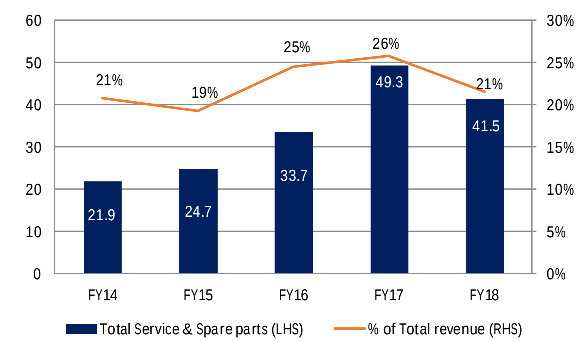
Source: Company

❑ *Going beyond distribution*

On top of distributing equipment, QES also provides after-sales service such as training programmes, on-call services that are available around the clock, and periodical maintenance services. With a scheduled maintenance and servicing model which covers the entire life span of the equipment, the company is able to enlarge its recurring income stream. From FY14 to FY17, the service and maintenance segment recorded an impressive growth with revenue expanding at a CAGR of 31%.

However in FY18, there was a slight dip in maintenance revenue due to less equipment shipped during the year. The company indicated that the slight drop was caused by delayed deliveries due to space constraint in some if its customers' facility.

EXHIBIT 12: MAINTENANCE REVENUE



Source: Company

With many of the inspection equipment relying on X-ray vision, particularly the ones that perform elemental composition analysis, it is mandated by the Atomic Energy Licensing Board (AELB) that only certified engineers can carry out repair or maintenance work. Hence, QES is able to secure customers under its maintenance contract which typically lasts for a year and renewable upon expiry. Maintenance fee makes up 21% of the total group's FY18 revenue.

❑ *Solid relationship with existing supplier*

QES has forged a strong relationship with its suppliers with more than 20 years of dealing without any disruptions. The company has also earned the trust of its suppliers to be the sole distribution channel locally and hold distribution rights in various counties in Asia. The major suppliers which represent more than 10% of total purchases each are Nikon Group, Spectro Analytical Instruments and MAT Plus Co Ltd. On aggregate, these 3 suppliers account for circa 40% of the group's purchases.

EXHIBIT 11: CUSTOMERS

Source: Company

❑ *Well diversified customer network*

To date, QES has more than 2,400 customers in Asia. Its customers span across 3 different industries, without a single customer accounting for over 10% of the group's revenue. To further strengthen its regional footprint, QES has set up satellite offices in Indonesia, Singapore, Thailand, the Philippines and Vietnam.

With presence in the respective countries, the company is able to better understand its customers' needs and attend to them in a timely manner. This allows the company to adapt quicker and more effectively than its competitors. Learning from experience that Chinese locals tend to be biased in terms of dealing only with companies with a local presence, QES has established an office in Hong Kong to penetrate the Chinese market.

❑ *Ample room for growth in China market*

China's contribution to QES is still minimal, accounting for only 4.0% of FY18 total revenue. Coming from a low base, the company sees great opportunities ahead to capitalise on the growing market, riding on China's huge ambition for its semiconductor industry. The company has a dedicated team that is actively seeking new Chinese customers. In FY18, the team managed to record RM6.8mil in sales from China, a significant increase from RM2mil in FY17. As part of its marketing effort, the company will be exhibiting its products in the upcoming SEMICON China trade fair in Shanghai, one of the largest semiconductor events.

EXHIBIT 13: REVENUE BY COUNTRY

Source: Company

FUTURE PLANS

❑ *Venturing into new industries*

Aside from the 3 core industries — semiconductor, E&E and automotive — the company has been actively marketing its products with the aim of expanding its distribution business to include higher education institutions, petrochemical and pharmaceutical industries.

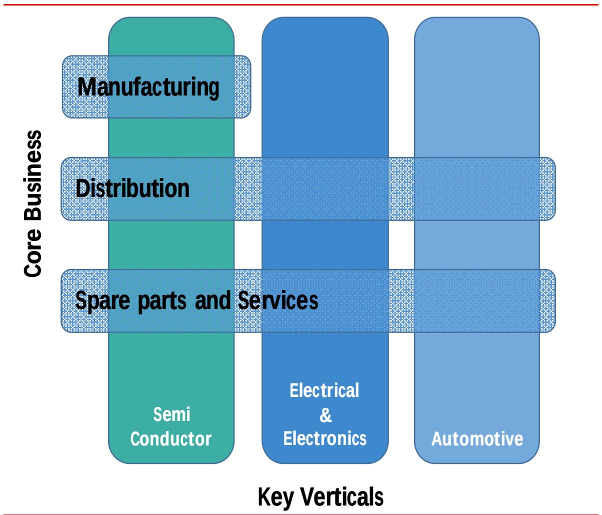
The company has successfully recorded sales from several higher education institutions, namely Universiti Teknikal Malaysia Melaka, Universiti Teknologi Petronas, National University of Singapore and Nanyang Technological University.

To further penetrate the education market, the company has been actively organising seminars at both government and private universities across Asean as well as participating in fairs relating to education and research. Ultimately, the company plans to tender for contracts to supply equipment and materials to these institutions.

For the petrochemical and pharmaceutical industries, the group has successfully qualified as a verified vendor to customers such as Shell Group, Petronas Carigali, Petron Corporation and AbbVie Operations Singapore.

While contribution from these new industries is still negligible, we are positive on the company's effort to grow its addressable market.

EXHIBIT 14: 3 CORE INDUSTRIES



Source: Company

INDUSTRY AND PEER ANALYSIS

❑ *Demand for inspection to increase in tandem with complexity in chip packaging*

Semiconductor inspection equipment ensures quality control and improves the accuracy in manufacturing a product. With advancement in technology, the role of inspection equipment is becoming more crucial.

Fuelled by the constant race to scale down the size of chips and at the same time double the capacity and speed, the industry is adopting advanced packaging methods to accommodate more transistors on a die. This will in turn increase the complexity of designs and cause a higher rate of errors if not executed properly.

Also, the emergence of internet of things (IoT) will demand more sensors to be fitted into a connected device. This presents a good growth opportunity for QES with its involvement in inspection equipment. Market experts are projecting a 14.7% CAGR for the semiconductor inspection equipment market from 2019 to 2023.

❑ *Potentially benefit from adoption of Industry 4.0*

Robotics and artificial intelligence will eventually replace operators in the manufacturing industry. Realising this, local authorities have been introducing initiatives to accelerate the adoption of automation in the form of grants and subsidised loans. In Budget 2019, the government allocated more than RM5bil to support the transition and migration to Industry 4.0.

This augurs well for QES as it continues to develop fully automated equipment and test handlers. The current focus for its manufactured equipment is still the semiconductor industry. However, the company mentioned that with some modifications, its automated test handlers could potentially be adopted by the electronic manufacturing services (EMS) industry, which is one of the potential markets to embrace the fourth industrial revolution.

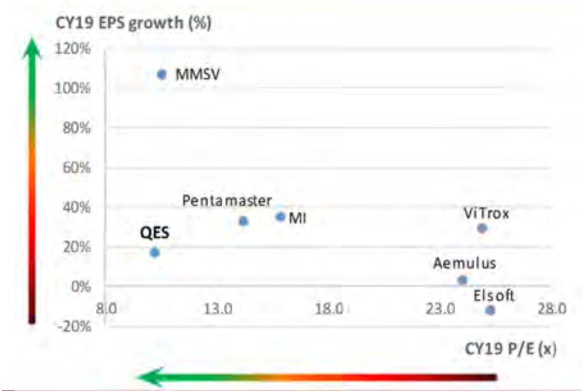
❑ *Undemanding valuation compared to peers*

There is a misconception in the market that QES is solely a distribution company and this is reflected in its undemanding valuation. Compared with its peers in the semiconductor production equipment (SPE) space, QES is currently trading at a PEG of 0.6x, which is a steep discount to the industry average of 0.94x.

While QES may not have been in the SPE business as long as some of its peers, the company is comparable in terms of expertise and access to clientele. The company has been distributing tools to semiconductor players since its inception. This enables the company to leverage its vast clientele network to market its manufactured equipment.

Furthermore, owning the licensing rights to model its equipment based on Chapman Instruments' (a New York-based SPE company) design has provided the company with a robust platform to rival tier-1 manufacturers. As a result, big names in the semiconductor industry such as Infineon, Global Foundries and STMicroelectronics have qualified QES as a verified vendor.

EXHIBIT 15: QES PE AND EPS POSITIONING



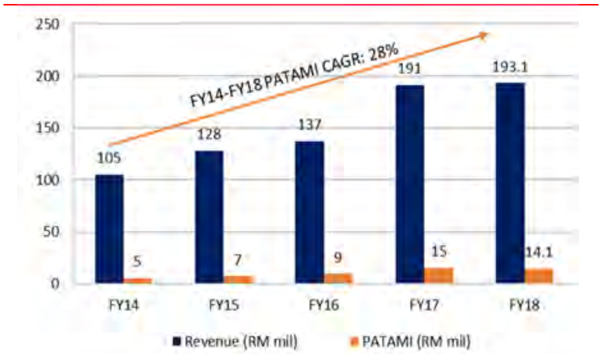
Source: Bloomberg, AmInvestment Bank

FINANCIALS

Growing revenue and PATAMI

From FY14 to FY18, the group's revenue grew at a CAGR of 16% from RM105mil to RM193mil, while PATAMI recorded an impressive CAGR of 28% during the same period. The marginal decline in FY18's PATAMI was attributable to a lower number of distributed equipment sold during the year, 882 units vs. 965 units in FY17. However, this was slightly cushioned by a higher number of manufactured equipment shipped, 58 units vs. 54 units in FY17.

EXHIBIT 16: REVENUE AND PATAMI TREND

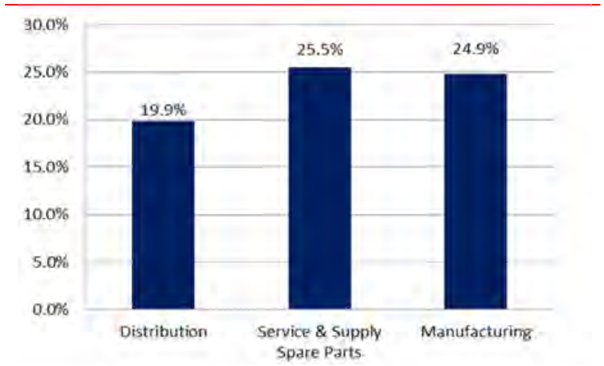


Source: Company

Being one of the most lucrative segments in terms of gross profit margin, the maintenance segment's revenue accounts for circa 24%–26% of total revenue from FY16 to FY18. In FY18, the maintenance segment recorded a gross profit margin of 25.5% (Exhibit 18), and this is expected to continue going forward owing to the company's ability to bundle maintenance plan together with the sale of equipment, hence, ensuring the growth of maintenance revenue in tandem with equipment sales.

Overall, the rising significance of the manufacturing segment's contribution will eventually lead to an expansion in blended gross profit margin.

EXHIBIT 18: FY18 SEGMENTAL GROSS PROFIT MARGIN

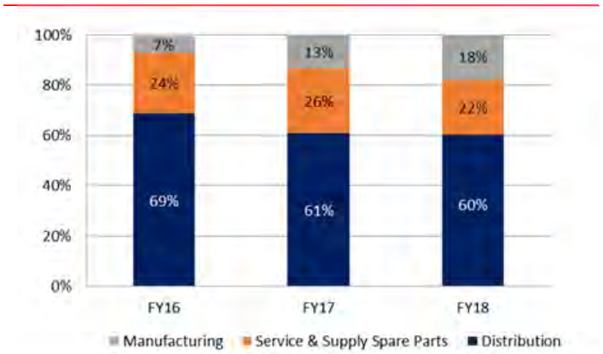


Source: Company

Strengthening manufacturing division will lead to margin expansion

Contributions from the manufacturing segment relative to total group revenue have gained prominence, rising from 7% in FY16 to 18% in FY18. This bodes well for QES as the manufacturing segment commands a higher gross profit margin compared with the distribution segment, 25% vs. 20%, due to more value-add.

EXHIBIT 17: SEGMENTAL REVENUE BREAKDOWN



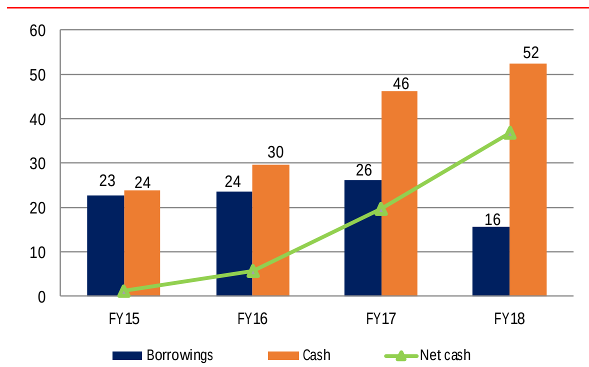
Source: Company

Strong balance sheet

QES' balance sheet is healthy. It has maintained a net cash position since FY15. As of 31 December 2018, the company has amassed a cash pile of RM52.4mil which translate into a net cash position of RM36.8mil.

While the company has not provided any indication of expansion, the strong net cash position gives the group the wherewithal to consider expansion plans such as increasing its floor space to cater for a higher order volume when the need arises.

EXHIBIT 19: CASH AND BORROWINGS TREND



Source: Company

VALUATIONS AND FORECAST

❑ *BUY WITH FV OF RM0.34*

We initiate coverage on QES Group with a BUY recommendation and a fair value of RM0.34/share based on FY19F PE of 15x. We attach a 20% discount to the average PE of 18.9x among SPE players to account for the group's lower income base compared with its peers.

We opine that our PE of 15x is rather conservative. That said, our fair value of RM0.34/share still provides a respectable upside of 42% from the current share price of RM0.24.

❑ *Undervalued due to misconception*

Market's misconception of QES as a distribution company places the company's valuation at a steep discount to other SPE players. We believe there is room for a rerating as the company is focusing to grow its manufacturing segment. Currently, QES is trading at a CY19F PE of 10.2x, representing a 46% discount to the peer average (Exhibit 20).

Comparing CY19F PE with CY19F EPS growth, this translates into a PEG of 0.6x for QES. In contrast, its peers' average PEG is 0.94x.

❑ *Revenue and profit forecast*

We project a revenue growth of 2% for FY19F and 13.7% for FY20F. The conservative forecast for FY19F is to account for earnings from the fully automated post-dicing inspection and post-probing inspection machines, which may only see meaningful contribution in FY20. Net profit is expected to grow 16% in FY19F and 28% in FY20F as the new fully automated machines that are targeted to be introduced in FY20 will command higher margin.

KEY RISKS

❑ *Short earnings visibility*

QES contracts with its customers are generally considered short term in nature, its order book usually provides earnings visibility for 3-4 months. However, the company's strong relationship with its customers has enabled the group to replenish its order book in a timely manner which has been proven historically.

Moreover, it has a vast clientele network with more than 2,400 customers with no customer accounting for more than 10% of the group's revenue. Given the company's good rapport with its customers, we do not expect any cancellation of orders. That said, we are confident that the company's well diversified portfolio will serve as a solid hedge against setbacks, if any.

❑ *Trade war*

The long standing dispute between United States and China which revolves around intellectual property rights and technology transfer has caused a significant slowdown in the semiconductor industry. Taking on a cautious approach, customers have slowed down on orders to reduce inventory pilling up in fear of worsening trade relationship which may bring about further tariff hikes.

However, we noted that SPE players were rather resilient in comparison with outsourced semiconductor assembly and test (OSAT) players. QES managed to record a flattish revenue growth of 1.2% in FY18, while its manufacturing revenue rose 39% amid the trade war.

❑ *Foreign exchange*

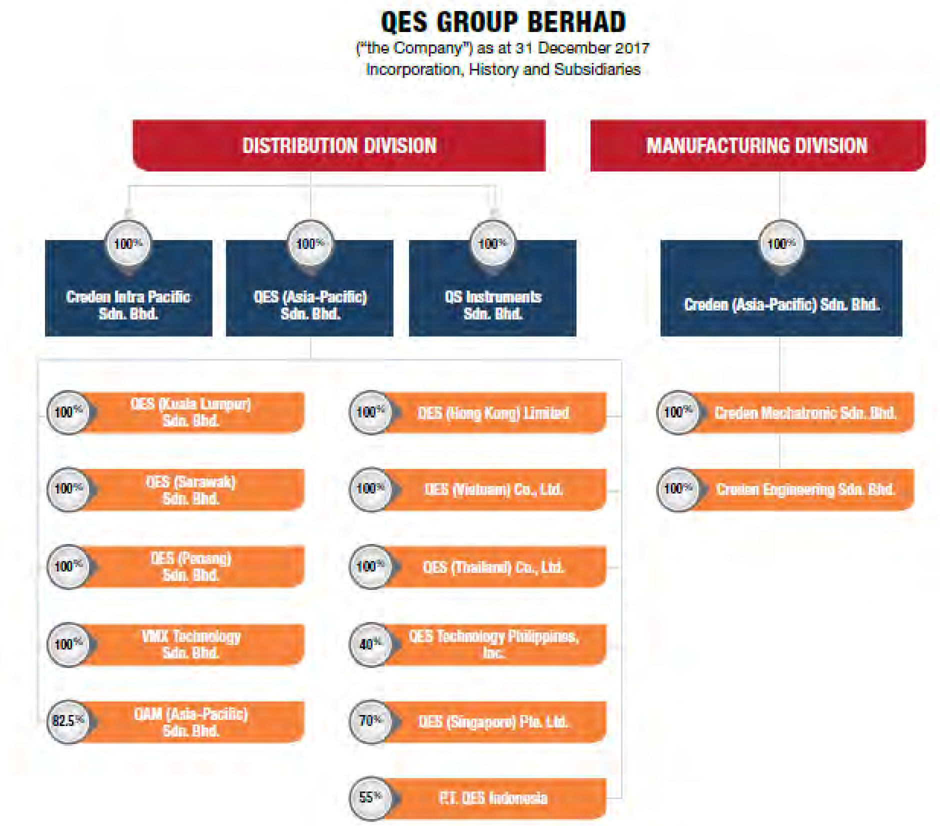
QES has 55% of its revenue derived in USD. However, this is mostly mitigated as 58% of its cost is denominated in USD. This serves as a good hedge against fluctuations. Also, 20% of its cost that is denominated in the Japanese yen while the remaining in other regional currencies. Our forecast for the USD/MYR for FY19 is US$1 to RM4.04.

EXHIBIT 20: PEER COMPARISON

Company	Price	Mkt Cap	P/E (x)		EPS Growth (%)		PEG	ROE (%)		Net Dividend Yield	
		(RM mil)	CY18	CY19	CY18	CY19	CY19 PE vs. CY19 growth	CY18	CY19	CY18	CY19
ViTrox Corp	7.22	3,346	31.7	24.5	26.6	29.5	0.83	28.4	27.7	0.4	1.0
Pentamaster Corp	3.40	1,080	18.9	14.2	57.9	33.3	0.43	21.3	19.3	0.0	1.1
Aemulus Holdings	0.25	132	24.0	22.9	-30.6	5.0	4.57	7.0	7.1	N/A	N/A
Elsoft Research	1.01	672	16.8	25.3	33.3	-33.3	-0.76	31.8	25.7	4.2	3.1
MMS Ventures	0.95	189	21.0	10.4	-57.1	102.2	0.10	15.7	28.5	1.1	3.8
Mi Technovation	2.24	1,110	21.8	16.2	N/A	34.3	0.47	16.9	18.5	1.9	1.9
QES Group	0.24	178	12.4	10.2	N/A	17.0	0.60	16.0	15.8	N/A	N/A
Simple average (excluding QES)			**22.4**	**18.9**	**6.0**	**28.5**	**0.9**	**20.2**	**21.1**	**1.5**	**2.2**

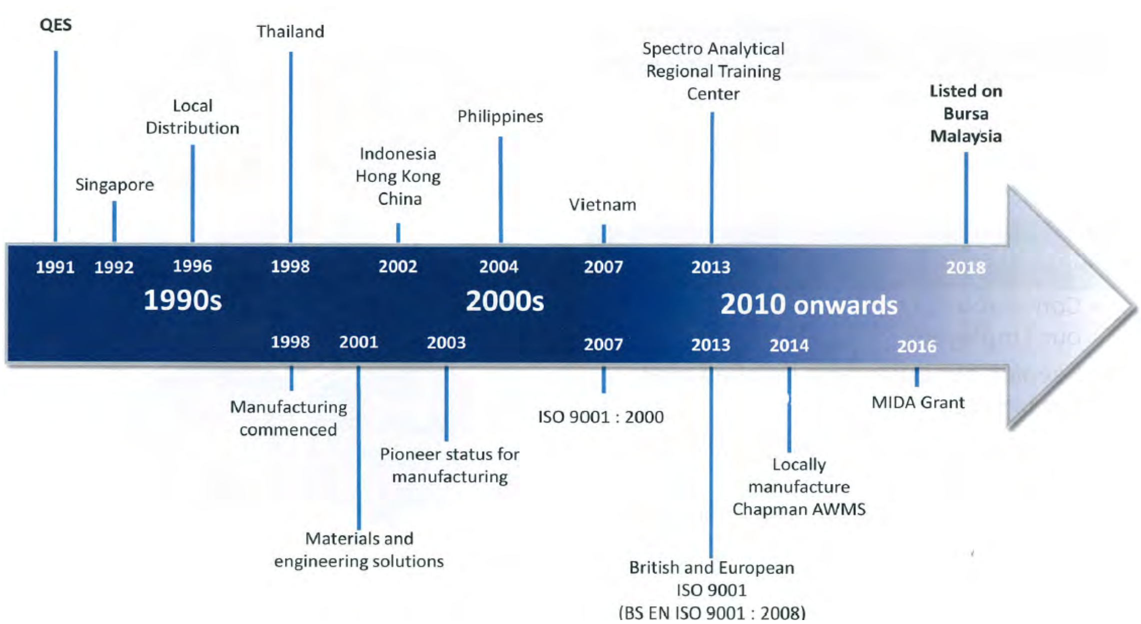
Source: AmInvestment Bank, Bloomberg
**Price as at 14 Mar 2018*

EXHIBIT 21: CORPORATE STRUCTURE



Source: Company

EXHIBIT 22: CORPORATE MILESTONES



Source: Company

EXHIBIT 23: PB BAND CHART

EXHIBIT 24: PE BAND CHART

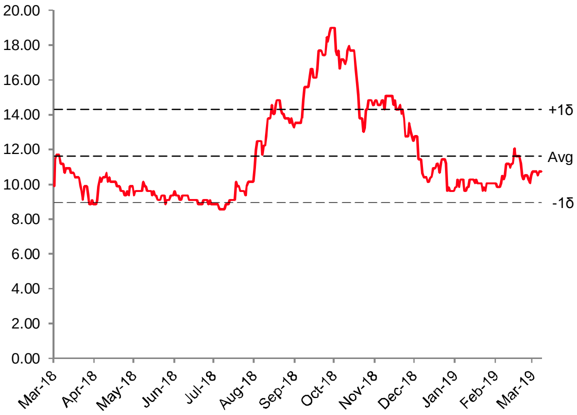


EXHIBIT 25: FINANCIAL DATA

Income Statement (RMmil, YE 31 Dec)	FY17	FY18	FY19F	FY20F	FY21F
Revenue	190.9	193.1	199.1	226.6	244.1
EBITDA	20.4	17.8	20.5	26.5	28.7
Depreciation/Amortisation	(1.9)	(2.3)	(2.8)	(3.3)	(3.9)
Operating income (EBIT)	18.6	15.5	17.7	23.2	24.8
Other income & associates	2.1	2.8	2.8	2.8	2.8
Net interest	(0.6)	0.3	0.4	0.7	0.9
Exceptional items	**-**	**-**	**-**	**-**	**-**
Pretax profit	20.1	18.6	21.0	26.7	28.5
Taxation	(3.8)	(3.8)	(3.8)	(4.9)	(5.2)
Minorities/pref dividends	**(1.3)**	**(0.7)**	**(0.7)**	**(0.7)**	**(0.7)**
Net profit	15.0	14.1	16.4	21.1	22.5
Core net profit	15.0	14.1	16.4	21.1	22.5

Balance Sheet (RMmil, YE 31 Dec)	FY17	FY18	FY19F	FY20F	FY21F
Fixed assets	7.8	11.1	14.0	17.0	20.1
Intangible assets	4.6	5.6	6.6	7.7	8.8
Other long-term assets	**0.2**	**0.5**	**0.5**	**0.5**	**0.5**
Total non-current assets	12.6	17.2	21.2	25.3	29.5
Cash & equivalent	46.1	52.4	63.8	79.6	99.5
Stock	17.2	15.8	17.0	19.0	20.5
Trade debtors	35.3	47.0	42.5	48.3	52.1
Other current assets	**2.3**	**20.9**	**20.9**	**20.9**	**20.9**
Total current assets	100.9	136.1	144.2	167.9	193.0
Trade creditors	22.9	32.6	28.6	32.1	34.5
Short-term borrowings	25.0	14.0	14.0	16.2	19.4
Other current liabilities	**15.1**	**14.4**	**14.4**	**14.4**	**14.4**
Total current liabilities	63.0	60.9	56.9	62.7	68.4
Long-term borrowings	1.3	1.6	1.6	1.8	2.2
Other long-term liabilities	**0.9**	**0.9**	**0.9**	**0.9**	**0.9**
Total long-term liabilities	**2.2**	**2.5**	**2.5**	**2.7**	**3.1**
Shareholders' funds	46.5	87.7	104.1	125.1	147.7
Minority interests	1.8	2.1	2.9	3.6	4.4
BV/share (RM)	0.08	0.12	0.14	0.17	0.20

Cash Flow (RMmil, YE 31 Dec)	FY17	FY18	FY19F	FY20F	FY21F
Pretax profit	20.1	18.6	21.0	26.7	28.5
Depreciation/Amortisation	1.9	2.3	2.8	3.3	3.9
Net change in working capital	(1.4)	(3.1)	(0.6)	(4.4)	(2.7)
Others	**(3.7)**	**(7.4)**	**(4.3)**	**(5.6)**	**(6.1)**
Cash flow from operations	16.9	10.4	18.8	20.0	23.5
Capital expenditure	(2.4)	(5.7)	(5.5)	(6.0)	(6.6)
Net investments & sale of fixed assets	1.7	2.3	-	-	-
Others	**(6.4)**	**33.8**	**0.1**	**0.3**	**0.6**
Cash flow from investing	(7.1)	30.5	(5.4)	(5.8)	(6.1)
Debt raised/(repaid)	(3.1)	(3.7)	-	2.5	3.6
Equity raised/(repaid)	21.4	28.6	-	-	-
Dividends paid	-	-	-	-	-
Others	**(22.3)**	**(29.2)**	**(0.9)**	**(1.0)**	**(1.2)**
Cash flow from financing	**(4.0)**	**(4.3)**	**(0.9)**	**1.5**	**2.4**
Net cash flow	**5.8**	**36.5**	**12.5**	**15.8**	**19.9**
Net cash/(debt) b/f	**9.4**	**14.8**	**51.3**	**63.8**	**79.6**
Net cash/(debt) c/f	14.8	51.3	63.8	79.6	99.5

Key Ratios (YE 31 Dec)	FY17	FY18	FY19F	FY20F	FY21F
Revenue growth (%)	39.1	1.1	3.1	13.8	7.7
EBITDA growth (%)	92.9	(13.0)	15.4	29.5	8.1
Pretax margin (%)	10.5	9.6	10.5	11.8	11.7
Net profit margin (%)	7.9	7.3	8.2	9.3	9.2
Interest cover (x)	32.5	nm	nm	nm	nm
Effective tax rate (%)	18.9	20.4	18.3	18.3	18.3
Dividend payout (%)	-	-	-	-	-
Debtors turnover (days)	68	89	78	78	78
Stock turnover (days)	8	7	7	7	-
Creditors turnover (days)	10	14	12	12	-

Source: Company, AmInvestment Bank Bhd estimates

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