

QUALITY INVESTMENT Innovation, Productivity, Education, Livelihoods.



AMERICAN MALAYSIAN  
CHAMBER OF COMMERCE

# ECONOMIC IMPACT SURVEY

2017 / 18

ELECTRICAL  
AND ELECTRONIC  
(E&E) SECTOR

# ABOUT THE SURVEY

11th Edition of the Malaysian American Electronics Industry [MAEI] Economic Impact Survey

31 AMCHAM member companies active in the E&E sector represent a significant proportion of the total American E&E investment in Malaysia

All participants are under American ownership and/or have headquarters in the USA

Data suggests American investment in Malaysia's E&E sector is strong, ongoing and high value-added.

E&E economic benefits go beyond the immediate FDI and job creation

80% of survey participants are members of the MAEI



**AMERICAN  
MALAYSIAN  
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COMMERCE**



## 2018 SURVEY OF AMERICAN INVESTMENT IN E&E SECTOR

*Making Industry 4.0 Evolution a Reality*

The 2018 Economic Impact Survey captures the contribution from 31 American electrical & electronics businesses to the Malaysian economy encompassing FDI, job creation, knowledge transfer, and support for local SMEs.



RM43 billion  
Investment  
to date



74% using Industry 4.0  
connectivity and  
intending to make  
more 4.0 investment



Approximately 28% of  
Malaysia's total international  
trade surplus for 2017



70% of survey  
respondents expect their  
company will increase  
trade and investment



RM12 billion  
Goods and Services  
sourced locally



80,000 directly employed  
16,500 skilled engineers  
6,200 shared services roles  
5,700 dedicated to R&D



RM4.3 billion  
2017 salary  
payments



19 of 31 companies  
are fully localized with a  
99%+ Malaysian workforce.



RM1 billion  
Annual tax payments  
in Malaysia



## Siobhan Das

Executive Director  
AMCHAM Malaysia

The E&E sector, after many decades, remains one of the core sectors for American investment in Malaysia. Our industry group, the Malaysian American Electronics Industry [MAEI], conducted this survey to demonstrate not only that American investment in Malaysia's E&E sector is strong and ongoing, but also, that it is these high-value investments that have had important economic benefits for the country beyond the immediate FDI and job creation.

American businesses have set the standard for corporate culture, social responsibility, and investment in Malaysia for more than 40 years. This Economic Impact Survey helps us to quantify the positive economic contributions that our E&E companies continue to make in Malaysia.



## Dato' Seri Wong Siew Hai

Chairman  
AMCHAM's MAEI Committee

In the intervening four years since our last survey, the E&E industry that MAEI represents has grown from strength to strength. Not only is it one of the country's larger exports - it is the industry that connects Malaysia into the global supply chain like no other.

We could not have done this alone. Success today has come about not only through the commitment of the multi-national companies, but also because of the collaborative environment that is being nurtured between stakeholders on the ground in Malaysia.

AMCHAM's MAEI Committee focuses on proactively engaging with government stakeholders, especially with MITI, and MIDA, coupled with our direct engagement with the Electrical and Electronics Strategic

Council (EESC) from 2016 onwards, and supporting the Electrical and Electronics Productivity Nexus (EEPN). American companies have helped drive many of the initiatives that have brought us to this vibrant place in 2018.

A new phase is now upon us and we must continue to strive to meet the future needs of the industry. Commitments to advancing up the value chain and developing our talent pipeline will take us there. We look forward to working closely with the Malaysian Government and other related stakeholders as we bring this partnership to bear, further growing the E&E industry with both U.S. investing companies and the host country working in tandem for a shared success.

# EXECUTIVE SUMMARY

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Malaysian American Electronics Industry [MAEI], an industry committee under AMCHAM, has the objective of highlighting the contributions of the American electronics industry to Malaysia and to engage the Government of Malaysia by proposing policies to enhance Malaysia's E&E sector.

The Electrical and Electronic (E&E) industry has enabled Malaysia to successfully embed itself into the global supply chain of electronic manufacturing services, outsourced semiconductor assembly and testing as well as in research, design and development. Representing 36.7% of Malaysia's total exports<sup>1</sup> (2017), we have witnessed the industry flourish over the past four years. By 2020, it is expected that Malaysia's E&E sector will generate a GNI impact of RM53.4 billion and create 157,000 jobs<sup>2</sup>.

American multi-national companies (MNCs) are contributing to this growth in a significant manner, not just in capital investments but also in the conscious development of a robust eco-system. American investors support talent growth, drive the adoption of new technology and outsource to local vendors which in turn enhances the knowledge and skills of the local industry. The 2018 MAEI Economic Impact Survey tracks 31 American companies in the E&E industry; it clearly shows that there has been substantial progress since the last report in 2014.

The E&E companies surveyed at AMCHAM are at present collectively employing over 80,000 people, representing a 16% increase from our 2014 figure. Nineteen of the 31 companies are also fully localized where 99%+ of employees are Malaysians. Respondent companies employ over 16,500 skilled engineers; 2,000 of these jobs require a Master's degree or higher, and 5,700 are dedicated to research, design and development. In 2017, these American companies spent over RM3.8 billion on R&D alone. It is significant to note that four of these companies have located their global R&D Centers in Malaysia.

As technology has rapidly evolved over the years, product ranges and segmentation have had to adapt in order to address consumer and industry needs globally. Some sectors are benefitting from technological and data evolution more rapidly and showing signs of strong longer-term growth. For example, the proportion of goods produced by MAEI members that serve the automotive industry has been found to have quadrupled from 3%<sup>3</sup> to almost 12%.

Based on 2017/18 survey findings, we are witnessing the results of a strong commitment to the transition to automation and AI. Seventy-four percent of the companies surveyed consider themselves to have either fully transitioned or introduced elements of Industry 4.0, and plan to make further investments into robotics and advanced systems over the coming years. Sixty-five percent already work with facilities that are automated and/or use robotic machinery.

To support the transition to Industry 4.0, MAEI companies have been actively working to upskill their workers. This includes partnering with local institutes of higher learning to enhance the skills and knowledge of the local graduates through further training. Many companies have up to 40 interns rotating through their facilities at any one time to provide hands-on experience.

Overall investments made by MAEI companies have clearly benefitted the local ecosystem.

In 2017, over RM12 billion was spent procuring goods and services from Malaysian companies, thus supporting job creation and tax revenue generation. Over 300 local companies have been supported via various vendor development programs to ensure that they meet global standards, enabling them to compete internationally. On average, each surveyed company works with 194 suppliers, whose contracts are valued at over RM100,000 per supplier.

It is important to note the contribution of these companies to the Environmental, Social and Governance (ESG) tenets: ensuring fair labor conditions, anti-corruption practices and environmental responsibility. Almost all the companies in the survey have active corporate social responsibility (CSR) programs and contributed up to RM650,000 in 2017 to support these efforts.

2018 sees American companies as a driver for the industry's growth in the global supply chain and an

anchor for local SME development. 70% of respondents expected their companies to increase their level of trade and investment with Malaysia over the next five years. The bright future reflected in this year's report is a poignant reminder of the longevity of U.S. businesses' commitment to Malaysia during a period in which many are asking what role the U.S. can play in Asia-Pacific over the coming decades.

AMCHAM, our MAEI Committee, and the many other member companies connected to this industry continue to work alongside the new government to help Malaysia to reinforce its business-friendly environment and enhance national competitiveness by addressing issues head-on and establishing a more predictable operating environment. In doing so, we look forward to realizing a mutually prosperous future in Malaysia.

<sup>1</sup> MIDA

<sup>2</sup> Advancing Penang, Insights July 2018, Ernst & Young Advisory Services

<sup>3</sup> MAEI Annual Survey Report 2013/14

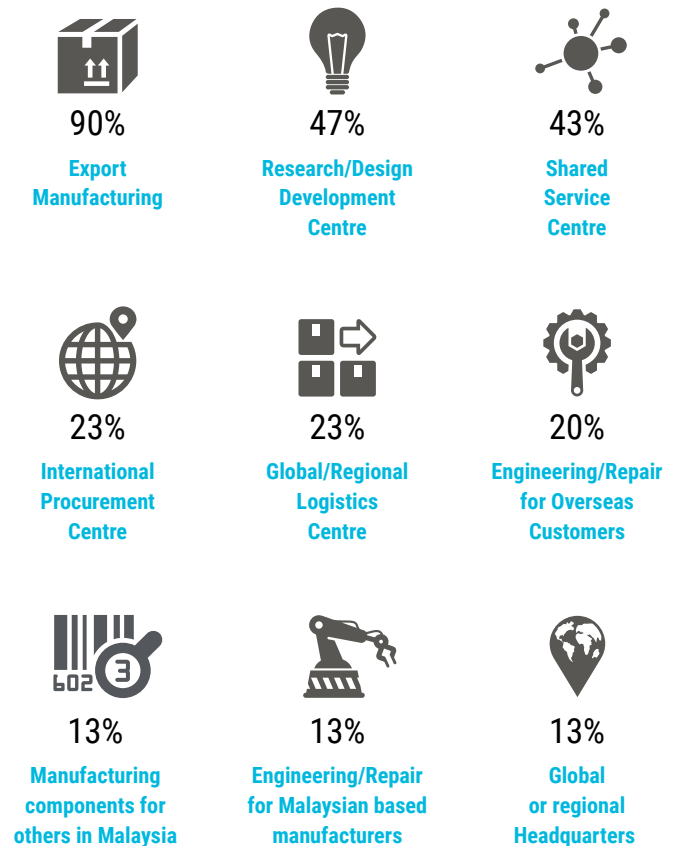


## The evolution and upscaling of companies

	1970-1979	1980-1989	1990-1999	2000-2009	2010-2018
HEADQUARTERS	-	-	3	4	4
BUSINESS SUPPORT <small>(shared services)</small>	-	-	6	11	13
R&D / D&D	-	-	5	9	14
MANUFACTURING	8	10	14	20	27

source: Historical MAEI Annual Survey

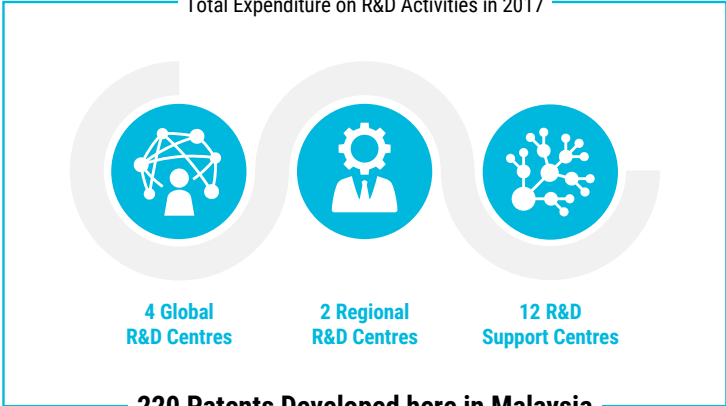
Almost all manufacturers are for export, but many have shared services and R&D in Malaysia



# Investment in Research and Development (R&D)

**RM3.87 billion**

Total Expenditure on R&D Activities in 2017



**220 Patents Developed here in Malaysia**

## Annual Investment

in Research & Development (2017)

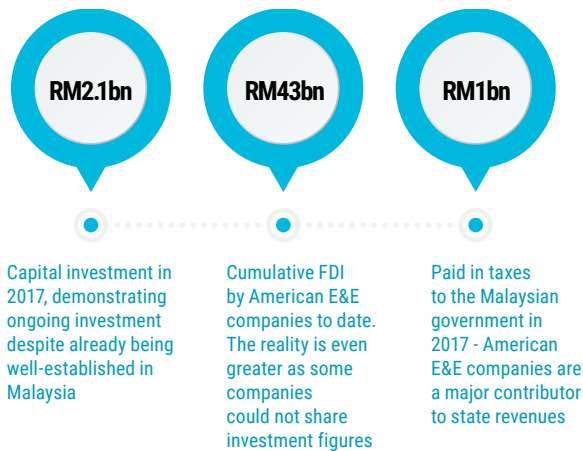


E&E products made in Malaysia by AMCHAM members serve a range of industries across the globe.

<b>18.5%</b>	Other Industrial Electronics Applications
<b>16.6%</b>	Consumer Electronics
<b>12.1%</b>	Medical Devices
<b>11.9%</b>	Automotive
<b>9.5%</b>	Cloud Computing and Servers
<b>6.5%</b>	Aerospace and Avionics
<b>2.8%</b>	Household Electrical Appliances
<b>2.4%</b>	Personal Computing
<b>19.5%</b>	Other

# TRADE AND INVESTMENT FINDINGS

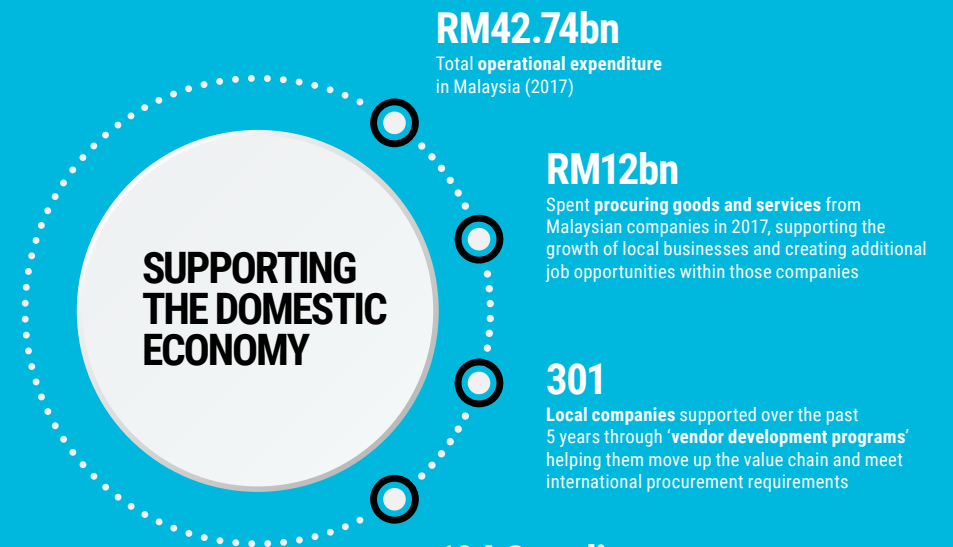
## Value of Investment



## Contribution to trade surplus



\* reported figures: some larger companies were unable to share





## Creating High-Skilled Jobs



**80,000+**

Total number of jobs created by surveyed American E&E companies in Malaysia



**67,000+**

At least 83% of these jobs are fulfilled by Malaysian citizens



**61%**

19 of 31 companies are fully localized with 99%+ Malaysian employees



**RM4.3bn**

Spent on employee salaries in 2017, supporting livelihoods



**36%**

of Malaysian nationals employed by American E&E companies hold a Bachelors degree or higher



**2,000**

total number of jobs requiring a Masters degree or higher



**RM35m**

invested in skills development and training in 2017 alone



**16,500**

skilled engineers



**5,700**

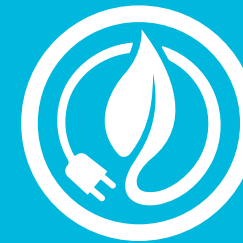
dedicated Research & Development jobs



**6,200**

skilled jobs in shared services

## Responsible Business Practices



90% of American E&E companies in Malaysia believe they implement industry-leading standards in environmental responsibility



Almost all American E&E companies in Malaysia have active CSR programs

- Up to 650,000 RM / year
- Up to 150,000 volunteer hrs / year



Large majorities **require** their **suppliers** to show evidence of:

- Environmental responsibility
- Good governance and anti-corruption practices
- Fair labor conditions

# ONGOING COMMITMENTS

Leading Towards Industry 4.0

**15%** Consider themselves to be already transitioned to Industry 4.0

**59%** Consider themselves to be operating at Industry 3.0 with elements of Industry 4.0

**74%** Intend to make further investments towards Industry 4.0 over the next 2 years

Aggregated breakdown of existing machinery and equipment, with potential for greater automation:

Robotic Machinery	10%
Automated Machinery	55%
Semi-Automated Machinery	26%
Manual Operation	10%

## A positive outlook for the future



**American E&E companies in Malaysia recorded strong revenue growth in 2017.**

While companies don't always share revenue growth data, 59% reported growth of at least 5% in 2017

- Further growth is expected in 2018
- A full 89% expect some revenue growth in 2018
- 78% expect revenue growth of 5% or more

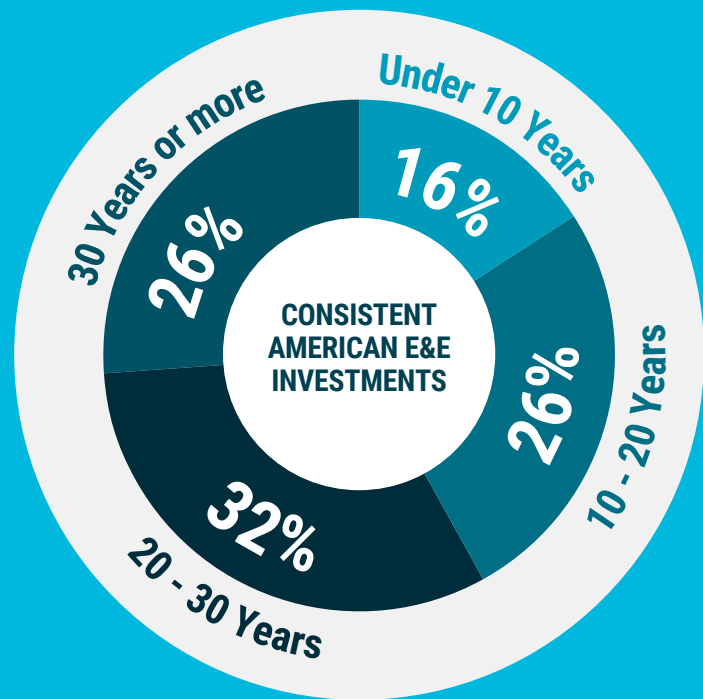


### Future Investment

70% of managers expect their company to increase their level of trade and/or investment in Malaysia over the next 5 years

# AMERICAN E&E COMPANIES HAVE CONSISTENTLY INVESTED IN MALAYSIA

1972 - 2015

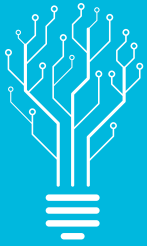


The highest concentration is found in Penang, with strong presence in Greater KL and sites throughout the country



## Number of investments in:

Penang	21
KL & Selangor	9
Kedah	4
Negeri Sembilan & Johor	3
Melaka & Perak	2
Sarawak	1
Putrajaya	1
Perlis	1



# ECONOMIC IMPACT SURVEY PARTICIPANTS

## Participants from MAEI

- Agilent Technologies LDA Malaysia Sdn Bhd
- Analog Devices Sdn Bhd  
(Formerly known as Linear Semiconductor Sdn Bhd)
- Benchmark Electronics (M) Sdn Bhd
- Boston Scientific Medical Device (Malaysia) Sdn Bhd
- Celestica Malaysia Sdn Bhd
- Finisar (M) Sdn Bhd
- First Solar (Malaysia) Sdn Bhd
- Flextronics Malaysia Group
- Freescale Semiconductor Malaysia Sdn Bhd
- Integrated Device Technology (Malaysia) Sdn Bhd
- Intel Malaysia Sdn Bhd
- Jabil Circuit Sdn Bhd.
- Keysight Technologies Malaysia Sdn Bhd
- Knowles Electronics (M) Sdn Bhd
- Lumileds Malaysia Sdn Bhd
- Microsemi Solutions Sdn Bhd
- Motorola Solutions Malaysia Sdn Bhd
- NI Malaysia Sdn Bhd
- ON Semiconductor Malaysia Sdn Bhd
- Plexus Manufacturing Sdn Bhd
- Sensata Technologies (M) Sdn Bhd
- SMART Modular Technologies Sdn Bhd
- SunPower Malaysia Manufacturing Sdn Bhd
- Texas Instruments Malaysia & Texas Instruments Electronics Malaysia
- Western Digital Malaysia Berhad

## Other E&E participants

- Emerson Process Management Manufacturing (M) Sdn Bhd
- HP Inc.
- Paramit Malaysia Sdn Bhd
- Renesas International Operations Sdn Bhd  
(Intersil International Operations)
- Sanmina-SCI Systems (M) Sdn Bhd
- Seagate International (Johor) Sdn Bhd

# ABOUT AMCHAM MALAYSIA

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The American Malaysian Chamber of Commerce (AMCHAM) celebrated its 40th anniversary in 2018.

AMCHAM represents over 270 companies (mostly American MNCs) that are active in Malaysia.

AMCHAM serves as “The Voice of U.S. Business in Malaysia” and helps our members to provide collective inputs to the Government of Malaysia on a range of policy matters.

Members are from a diverse range of industries including E&E, oil & gas, financial services and consultancy.

Wholly independent and not-for-profit.

The Chamber is a member of the Asia Pacific Council of American Chambers of Commerce (APCAC).

[amcham.com.my](http://amcham.com.my)





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DISCLAIMER

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The content and information contained in this publication are intended for general informational purposes only and should not be relied upon by any person as being complete or accurate. Data points within the publication relate solely to the survey responses of 31 AMCHAM member companies. Some companies were unable to answer all questions within the survey and blank answers have been excluded from the data set.

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