



## BEM MINI-CONVENTION 2021

# INTERNATIONAL PROFESSIONAL AND COMPETENCY RECOGNITION

Presented by

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Hon. Treasurer, IEM

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## Outline of Presentation

### 1. INTRODUCTION OF ENGINEERING TEAM

#### 2. BEM - REGULATOR FOR ENGINEERING PRACTITIONERS

#### 3. IEM – LEARNED ASSOCIATION FOR ENGINEERING PRACTITIONERS

#### 4. INTERNATIONAL PROFESSIONAL AND COMPETENCY RECOGNITION

##### (I) INTERNATIONAL ENGINEERING ALLIANCE (IEA)

##### (II) IEA EDUCATIONAL ACCORDS

##### (III) IEA – APEC/ IntPE

##### (IV) IEA – IETA (Technologist)

##### (V) IEA – AIET (Technician)

#### 5. ASEAN FEDERATION OF ENGINEERING ORGANISATION AND AER

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# ENGINEERING AND THE ENGINEERING TEAM

- Engineering works is defined as all works which include any publicly or privately owned public utilities, buildings, machines, equipment, processes, works or projects that require **the application of engineering principles and data** (REA).
- Many professionals are thus involved in engineering services or works namely **engineers, engineering technologists, engineering technicians, and engineering craftsmen**. Without a strong engineering team many engineering services or engineering works would face difficulty to deliver quality services.

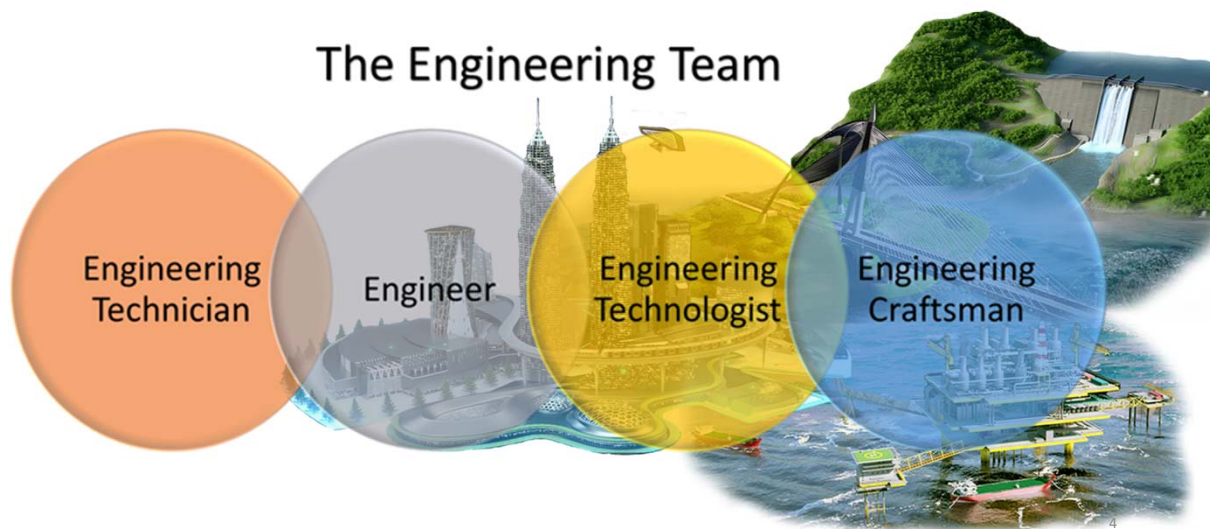


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# ENGINEERING AND THE ENGINEERING TEAM

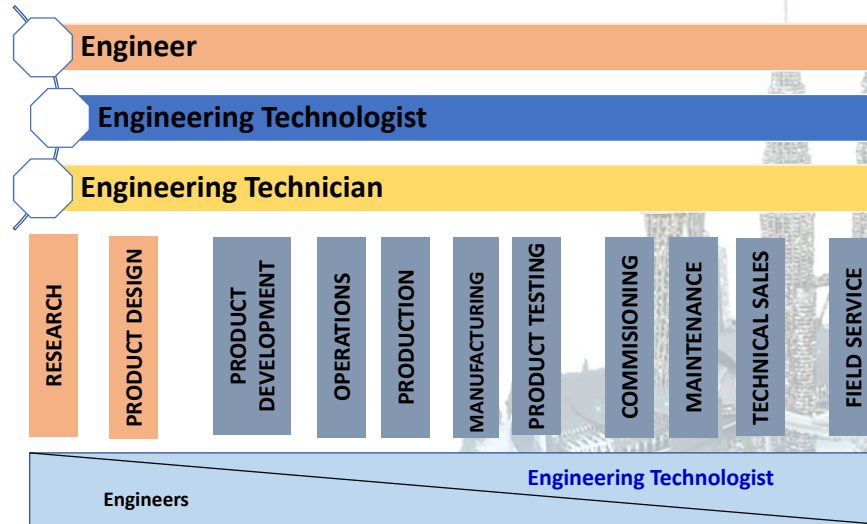
## The Engineering Team



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## Engineer, Engineering Technologist and Engineering Technician



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## BOARD OF ENGINEERS MALAYSIA (BEM)

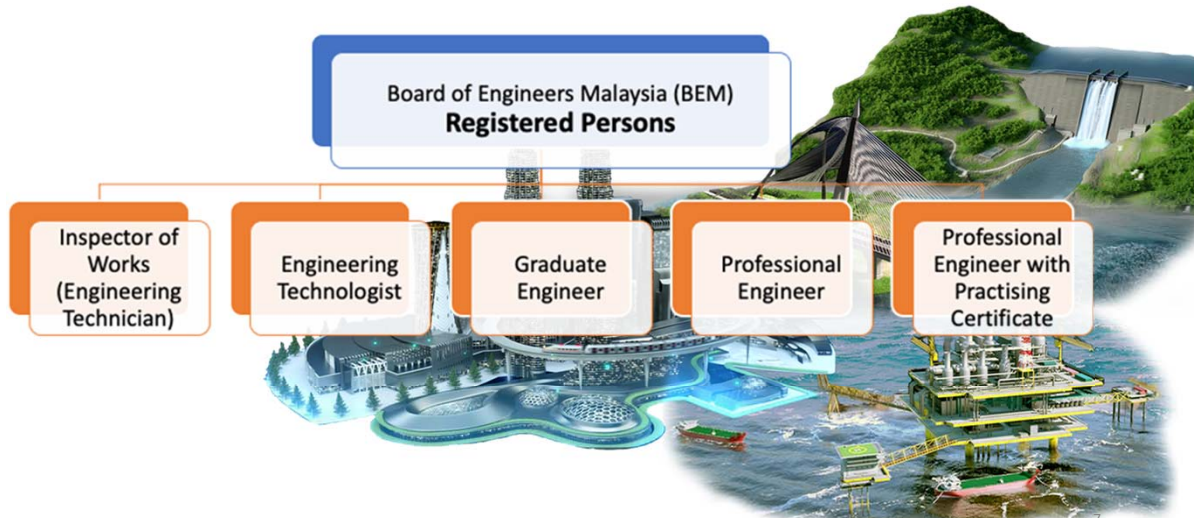
- ❑ The regulatory body for engineering practices in Malaysia; set-up by the Malaysian government under the Registration of Engineers Act, 1967 (REA) to administer and to enforce the REA and its provisions to protect public interest;
- ❑ Engineering practitioners **MUST** register with BEM if he/ she intends to practice engineering in Malaysia;
- ❑ Only Graduate Engineers, Engineering Technologist, Inspectors of Work and Professional Engineers registered with the Board of Engineers, Malaysia (BEM) are allowed to practice engineering in Malaysia

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## BOARD OF ENGINEERS MALAYSIA (BEM)



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## INSTITUTION OF ENGINEERS MALAYSIA (IEM)

- ❑ A *learned society* where engineers, engineering technologists and technicians of various disciplines in every sector of economic activities come together for mutual helpfulness and sharing of experiences and technologies;
- ❑ IEM works together with BEM to enhance the status of engineers in the society;
- ❑ Establish social linkage between engineering practitioners and help young engineering practitioners to establish themselves in their career;
- ❑ In general, a learned institution for engineering practitioners in Malaysia for networking, technical learning and socializing.

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# INSTITUTION OF ENGINEERS MALAYSIA (IEM)

## Types of Membership within IEM

- ❑ Student Member – open to all engineering, engineering technologist and engineering diploma students;
- ❑ Associate Member – recognized diploma in engineering from a polytechnic/ college or has obtained equivalent qualification;
- ❑ Affiliate Member – graduate of Applied Science from recognized university/ college and is active in specialized engineering field;
- ❑ Incorporated Member – Engineering degree not listed in the institution's Accredited List;
- ❑ Graduate Member – graduates of accredited engineering and engineering technology degrees, engineering diplomas
- ❑ Engineering Technologist Member – upgrading of experienced engineering technologist graduate members;
- ❑ Engineering Technician Member – upgrading of experienced engineering technician graduate members;
- ❑ Senior Graduate Member – open to all practicing engineers “registered with BEM” who has no less than 8 years of experience;
- ❑ Member (MIEM) – upgrading of experienced engineers leading to Professional Engineer status;
- ❑ Senior Member – transfer from Member (MIEM) with not less than 15 years experience;
- ❑ Fellow Member – upgrading with not less than 5 years as MIEM;
- ❑ Honorary Member – distinguish person who contributed to engineering profession.

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## INTERNATIONAL PROFESSIONAL AND COMPETENCY RECOGNITION



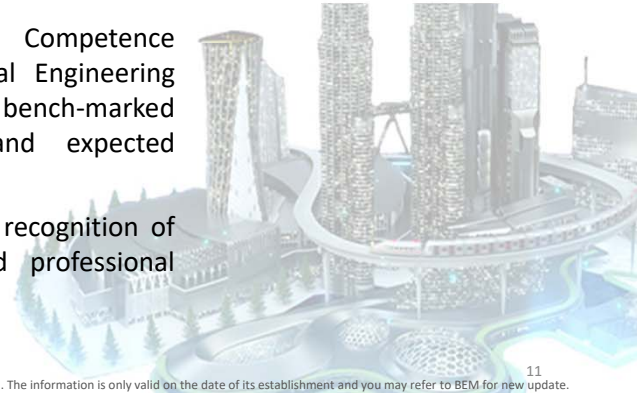
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# INTERNATIONAL ENGINEERING ALLIANCE

- International Engineering Alliance (IEA) - a global not-for-profit organization comprises members from **41 jurisdictions within 29 countries**, across seven international agreements.
- Through the Educational Accords and Competence Agreements, members of the International Engineering Alliance establish and enforce internationally bench-marked standards for engineering education and expected competence for engineering practice.
- These international agreements govern the recognition of engineering educational qualifications and professional competence.



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## INTERNATIONAL ENGINEERING ALLIANCE (IEA)



### Educational Accords

- Washington Accord
- Sydney Accord
- Dublin Accord



### Competence Agreements

- APEC Engineer
- International Professional Engineer
- International Engineering Technologist
- International Engineering Technician

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# INTERNATIONAL ENGINEERING ALLIANCE

- Malaysia are signatories to the Washington, Sydney and Dublin Accords which falls under the umbrella of the International Engineering Alliance.
- Washington Accord was originally signed in 1989, and is a multi-lateral agreement between bodies responsible for accreditation of tertiary-level engineering qualifications within their jurisdictions, and with the objective to assist growing globalization of mutual recognition of engineering qualifications
- The Sydney and Dublin Accords were initiated to establish an international benchmarking for engineering technology qualifications at Bachelor and Diploma levels respectively.



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# INTERNATIONAL ENGINEERING ALLIANCE

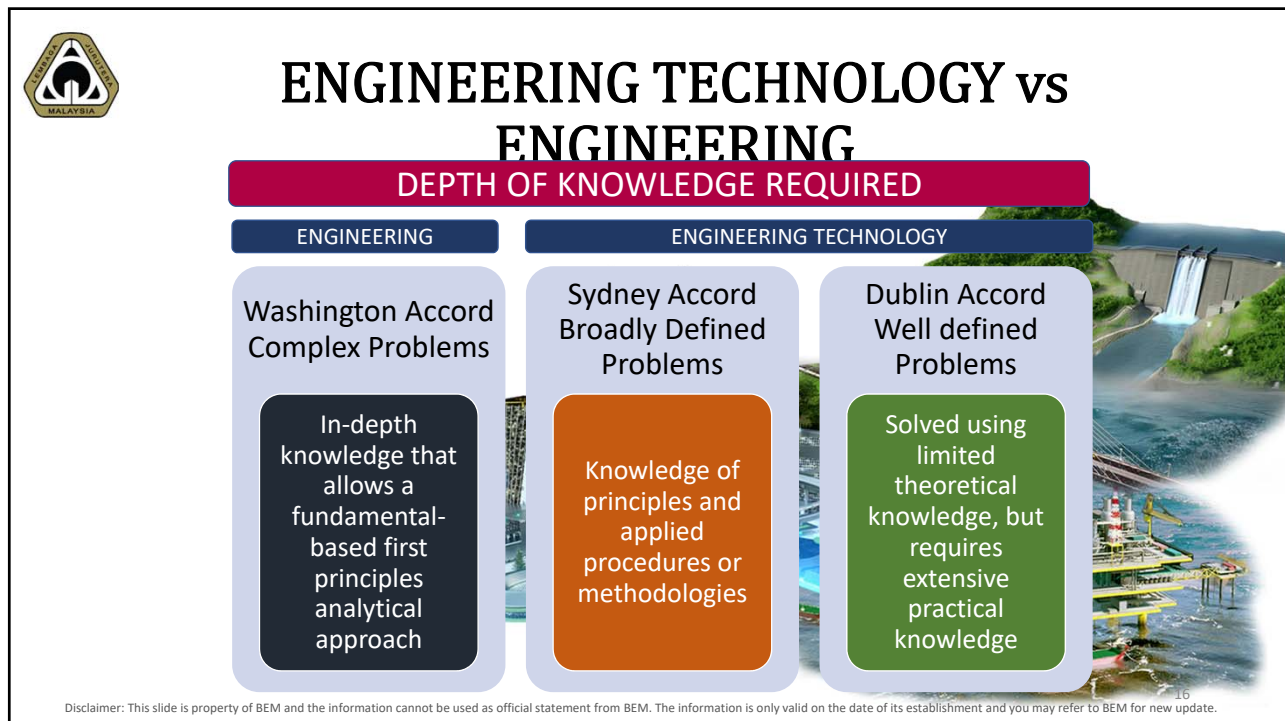
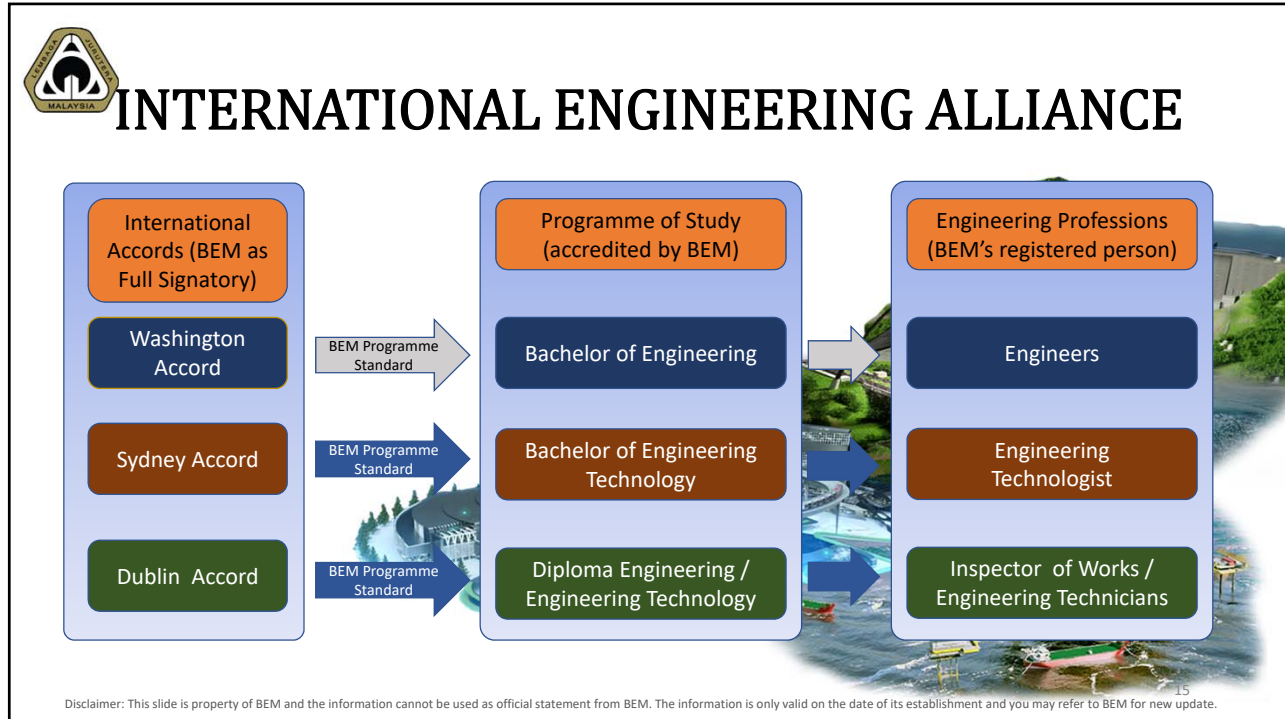
- Signatories to the Accords (as of 2021)

Accord	Number of Signatories	Note - Full members
Washington	<ul style="list-style-type: none"> <li>• 20 (full members)</li> <li>• 8 (provisional members)</li> </ul>	Korea, Russia, Malaysia, China, SA, NZ, Australia, Canada, Ireland, Hong Kong China, Chinese Taipei, Singapore, Sri Lanka, Japan, India, US, Turkey, UK, Costa Rica, Pakistan, Peru
Sydney	<ul style="list-style-type: none"> <li>• 11 (full members)</li> <li>• 2 (provisional members)</li> </ul>	Australia, Canada, Chinese Taipei, Hong Kong China, Ireland, Korea, SA, UK, US, Malaysia, NZ
Dublin	<ul style="list-style-type: none"> <li>• 9 (full members)</li> </ul>	Australia, Canada, Ireland, New Zealand, Korea, South Africa, UK, US, Malaysia

- Benefits of signatory are that the programmes are recognized by other members of the international accords as 'substantially equivalent'. This makes it easier for **qualification holders to gain professional registration in other countries, enhancing internationally mobility and employment opportunities.**



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## International Professional & Competency Recognition

### INTERNATIONAL REGISTERS OF ENGINEERING PRACTITIONERS - ASEAN and APEC/IPEA

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## INTERNATIONAL ENGINEERING ALLIANCE (IEA)



Educational Accords

- Washington Accord
- Sydney Accord
- Dublin Accord



Competence Agreements

- APEC Engineer
- International Professional Engineer
- International Engineering Technologist
- International Engineering Technician

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## APEC/ IPEA International Registrars

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APEC: Asia Pacific Economic Cooperation

The APEC Agreement recognizes the substantial equivalence of competence standards for professional engineers within the APEC economies

IPEA: International Professional Engineers Agreement  
(formally known as *Engineers Mobility Forum (EMF)*)

The IPEA recognizes the substantial equivalency of standards establishing the competency of professional engineers for independent practice



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## APEC/ IPEA International Registrars

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### DEFINITION

An **APEC Engineer** is defined as a person who is recognized as a Professional Engineer within an APEC Economy, and has satisfied an authorized body in that economy, and operating in accordance with the criteria and procedures approved by the APEC Engineer Coordinating Committee.

An **International Professional Engineer** is one whose experience is accepted as being eligible for independent practice in another economy within which the full member countries/economies have standing



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## APEC/ IPEA International Registrars

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### OBJECTIVE OF THE REGISTERS:

Initiatives for trade liberalization in Professional Services;  
Reduce barriers and ease the process for engineers to gain access to work and practice in other economies.

Engineers in these registers shall have their competence recognized by APEC and International member economies.



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## APEC/ IPEA International Registrars

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### TITLE

A registered APEC Engineer is entitled to use the post-nominal title **APEC Eng.** behind his/her name.

A registered International Professional Engineer in Malaysia is entitled to use the post-nominal title **IntPE (MY)** behind his/her name.



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## APEC/ IPEA International Registrars

### CRITERIA

The applicant must have:

- reached a level of academic achievement at the point of entry to the register - substantially equivalent to that of a graduate holding an engineering degree accredited by an organization holding full membership of, and acting in accordance with the terms of the Washington Accord;
- been assessed within their own economy as eligible for independent practice;
- gained a minimum of 7 years practical experience since graduation;
- spent at least 2 years in responsible charge of significant engineering work; and
- maintained their continuing professional development (CPD) at a satisfactory level.



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## International Engineering Technologists Agreement

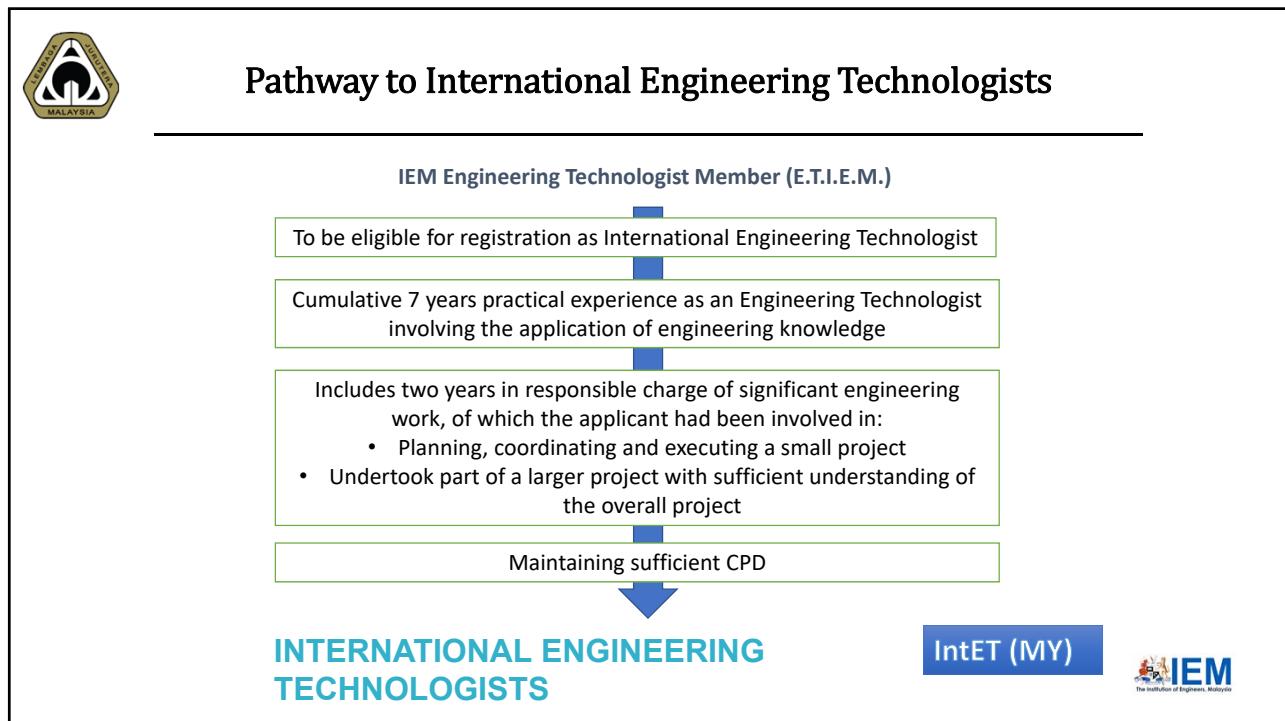
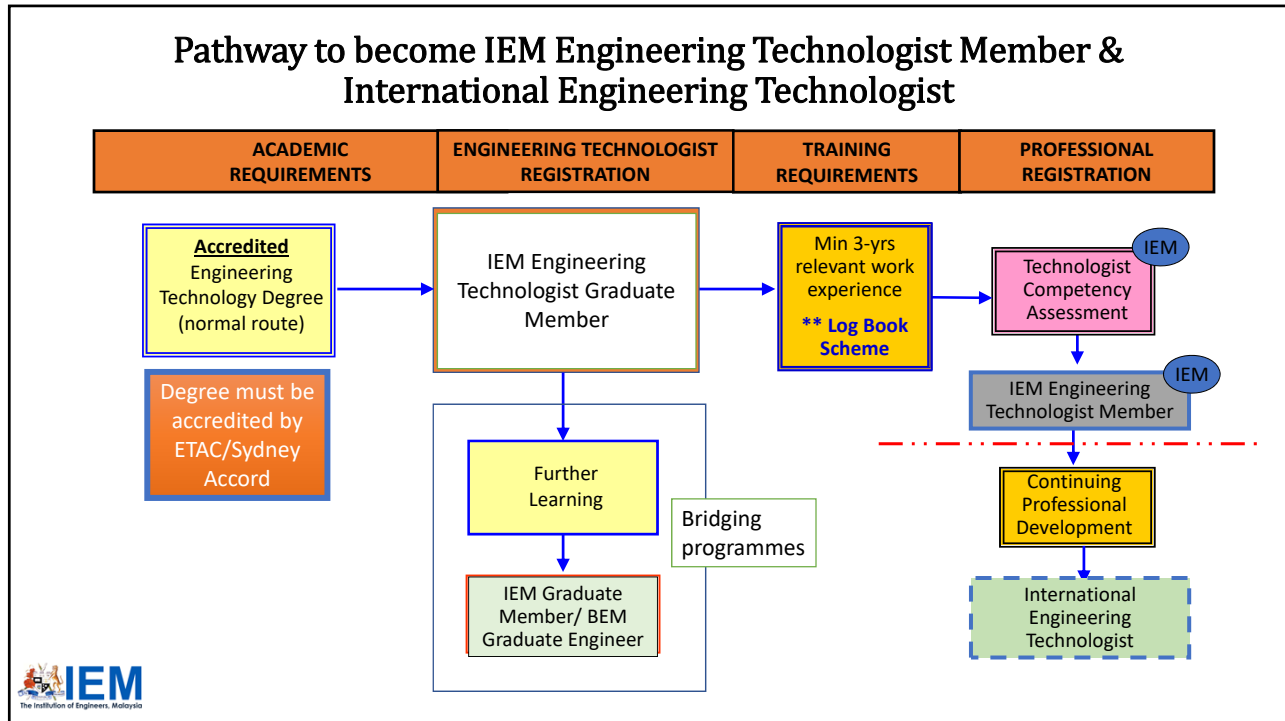
- The International Engineering Technologists Agreement (IETA) allows for the mutual recognition of the substantial equivalency of standards establishing the competency for practicing engineering technologists
- Through IETA, the members aim to facilitate cross-border practice by experienced practicing engineering technologists by establishing a framework for their recognition based on confidence in the integrity of national assessment systems, secured through continuing mutual inspection and evaluation of those systems
- Malaysia, through IEM, has been accepted as the provisional member of IETA in 2021



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## Agreement For International Engineering Technicians

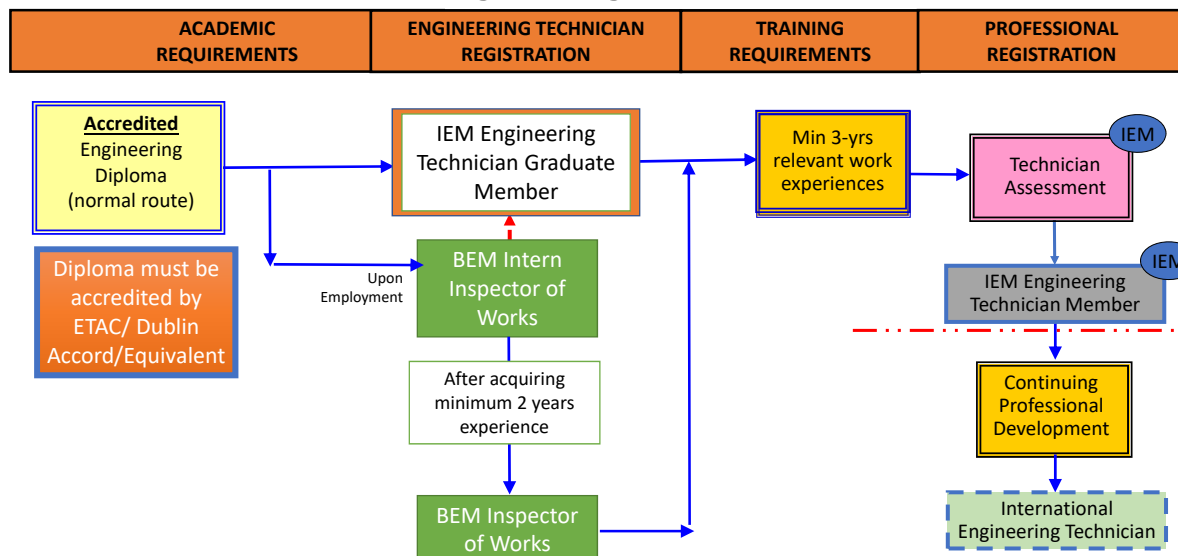
- The Agreement For International Engineering Technicians establishes an international benchmark competence standard for individuals practicing as a fully qualified engineering technicians
- An agreement was signed in 2015 for International Engineering Technicians
- AIET recognizes that a practicing technician's skills have equivalence with other qualifications and provides a framework for the recognition of substantial equivalence of standards and quality assurance systems
- Malaysia, through IEM, has been accepted as the provisional member of IETA in 2021



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## Pathway to become IEM Engineering Technician Member & International Engineering Technician





## Pathway to International Engineering Technicians

**IEM Engineering Technician Member (E.Tn.I.E.M.)**

To be eligible for registration as International Engineering Technician

Cumulative 5 years practical experience involving application of engineering knowledge  
Maintenance of CPD

**INTERNATIONAL ENGINEERING TECHNICIAN**



## Federation of Engineering Institutions Asia and the Pacific (FEIAP)

IEM was appointed the permanent Secretariat in  
2007

## ASEAN Federation of Engineering Organisations (AFEO) ASEAN Engineering Register (AER)

IEM is currently the Secretariat  
(a position held since 1998)



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# ASEAN Federation of Engineering Organisations

**What is AFEO?**

The ASEAN Federation of Engineering Organisations (AFEO) is a non-governmental body.

Its members are the engineering institutions and organisations of ASEAN countries with the following main objectives:

- To promote goodwill and mutual understanding
- To establish and develop a ASEAN baseline standard for the engineering profession with the objective of facilitating the mobility of the engineers within the ASEAN countries.

ASEAN ENGINEERING REGISTER

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## The Role of AFEO & AER




- FACILITATE THE **MOBILITY OF Engineers, Engineering Technologists and Engineering Technicians** within the ASEAN Countries
- Similar to the **EUROPEAN ENGINEER REGISTER (EURO Eng)**

Both are **STAKEHOLDERS' INITIATIVES** to **recognise** "**COMPETENCY**" and "**BRANDING**" of the engineering personnel

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## Recognition and Mobility











### REGISTRATION WITH PROFESSIONAL INSTITUTION / SOCIETIES (AFEO'S AER) In Malaysia- The Institution of Engineers Malaysia (IEM)




AFEO


AER

The ASEAN Federation of Engineering Organisations (AFEO) is formed by 10 ASEAN member organisations.

 Pertubuhan Ukur Jurutera & Arkitek (PUJA)  Persatuan Insanur Indonesia (PII)  The Institution of Engineers, Malaysia (IEM)  The Philippine Technological Council (PTC)  The Engineering Institute of Thailand (EIT)	 Board of Engineers Cambodia (BEC)  Lao Union of Science and Engineering Associations (LUSEA)  Myanmar Engineering Society (MES)  The Institution of Engineers Singapore (IES)  Vietnam Union of Science and Technology Associations (VUSTA)
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- ASEAN Engineer (ASEAN Eng.)
- ASEAN Engineering Technologist (ASEAN Eng. Tech.)
- ASEAN Technician (ASEAN Tech.)
- Associate ASEAN Engineer (A. ASEAN Eng.)
- Associate ASEAN Engineering Technologist (A. ASEAN Eng. Tech.)
- Associate ASEAN Technician (A. ASEAN Tech.)





**ASEAN ENGINEERING REGISTER**

THE ASEAN FEDERATION OF ENGINEERING ORGANISATIONS (AFEO)

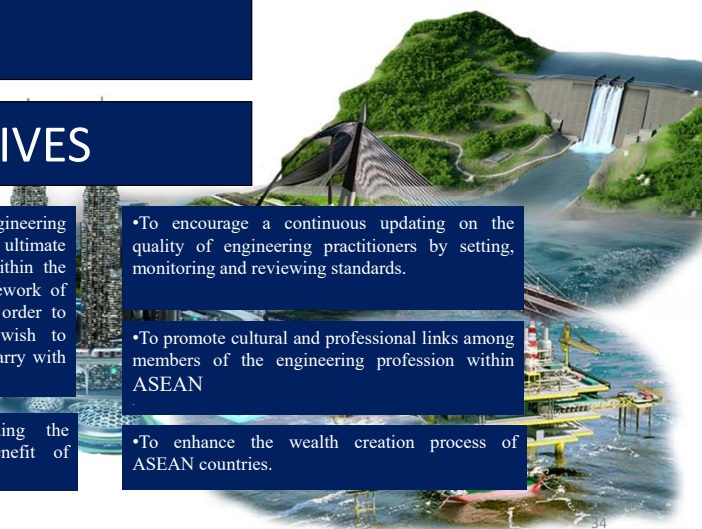


# AER

# OBJECTIVES

- To provide a complete data of engineering practitioners within ASEAN with the ultimate purpose of facilitating their mobility within the ASEAN ambit and to establish a framework of mutual recognition of qualifications in order to allow engineering practitioners who wish to practice outside their home country to carry with them a guarantee of ability.
- To provide sufficient data regarding the engineering practitioners for the benefit of prospective employers.

- To encourage a continuous updating on the quality of engineering practitioners by setting, monitoring and reviewing standards.
- To promote cultural and professional links among members of the engineering profession within ASEAN
- To enhance the wealth creation process of ASEAN countries.



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**ASEAN ENGINEERING REGISTER**  
THE ASEAN FEDERATION OF ENGINEERING ORGANISATIONS





- 1  
**Bigger market for expertise**
- 2  
**Better employment prospects**
- 3  
**Greater avenue for sharing of knowledge, expertise and technology**
- 4  
**Increased related business potential**
- 5  
**Wider networking and strategic alliances**

## Opportunities

**TITLE**

A registered ASEAN Engineer is entitled to use the post-nominal title **ASEAN Eng.** behind his/her name.

A registered ASEAN Engineering Technologist is entitled to use the post-nominal title **ASEAN Eng Technologist** behind his/her name.

A registered ASEAN Engineering Technician is entitled to use the post-nominal title **ASEAN Eng Technician.** behind his/her name.



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# AFEO and AER





## Samples of Medallions and Certificates

ASEAN ENGINEERING TECHNOLOGIES  
Etching Medal (Chrome silver)  
Size: 2" Dia x 2mm(Dia)  
RM 12.00pc (based on order quantity of 100pcs)





ASEAN TECHNICIAN  
Etching Medal (Chrome silver)  
Size: 2" Dia x 2mm(Dia)  
RM 12.00pc (based on order quantity of 100pcs)





ASSOCIATE ASEAN ENGINEERING TECHNOLOGIST  
Etching Medal (Chrome silver)  
Size: 1.5" Dia x 1.5mm(Dia)  
RM 10.00pc (based on order quantity of 100pcs)





ASSOCIATE ASEAN TECHNICIAN  
Etching Medal (Chrome silver)  
Size: 1.5" Dia x 1.5mm(Dia)  
RM 10.00pc (based on order quantity of 100pcs)





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# THANK YOU

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