

2022 HEEACT Virtual International Conference

The Development of Quality Assurance Agencies and the Trends in QA

The Trends & Innovation in QA in Response to the Post-Pandemic Era

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President, Taiwan Society for Circular Economy

October 5, 2022

Outlines

IEET, an Introduction



**International
Perspectives on QA
in the Post
Pandemic Era**



**Looking into the
Future**

Outlines

IEET, an Introduction



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**Looking into the
Future**

IEET, a QA Agency 20 Years and Beyond~



**2003
Estab-
lishment**

**2004
EAC
Accreditation**



**2007
Washington
Accord
Signatory**



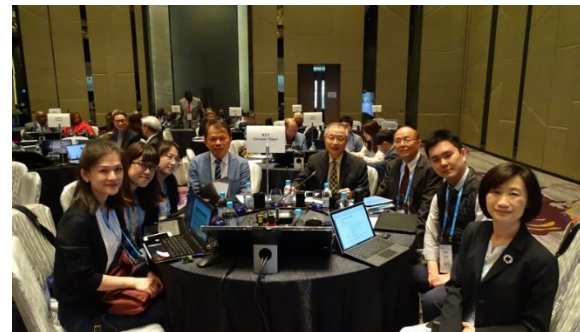
**2009
Seoul Accord
Signatory**



**2011
CAC, TAC,
AAC
Accreditation**



**2014
Sydney
Accord
Signatory
DAC
Accreditation**



**2020
Canberra
Accord
Signatory**

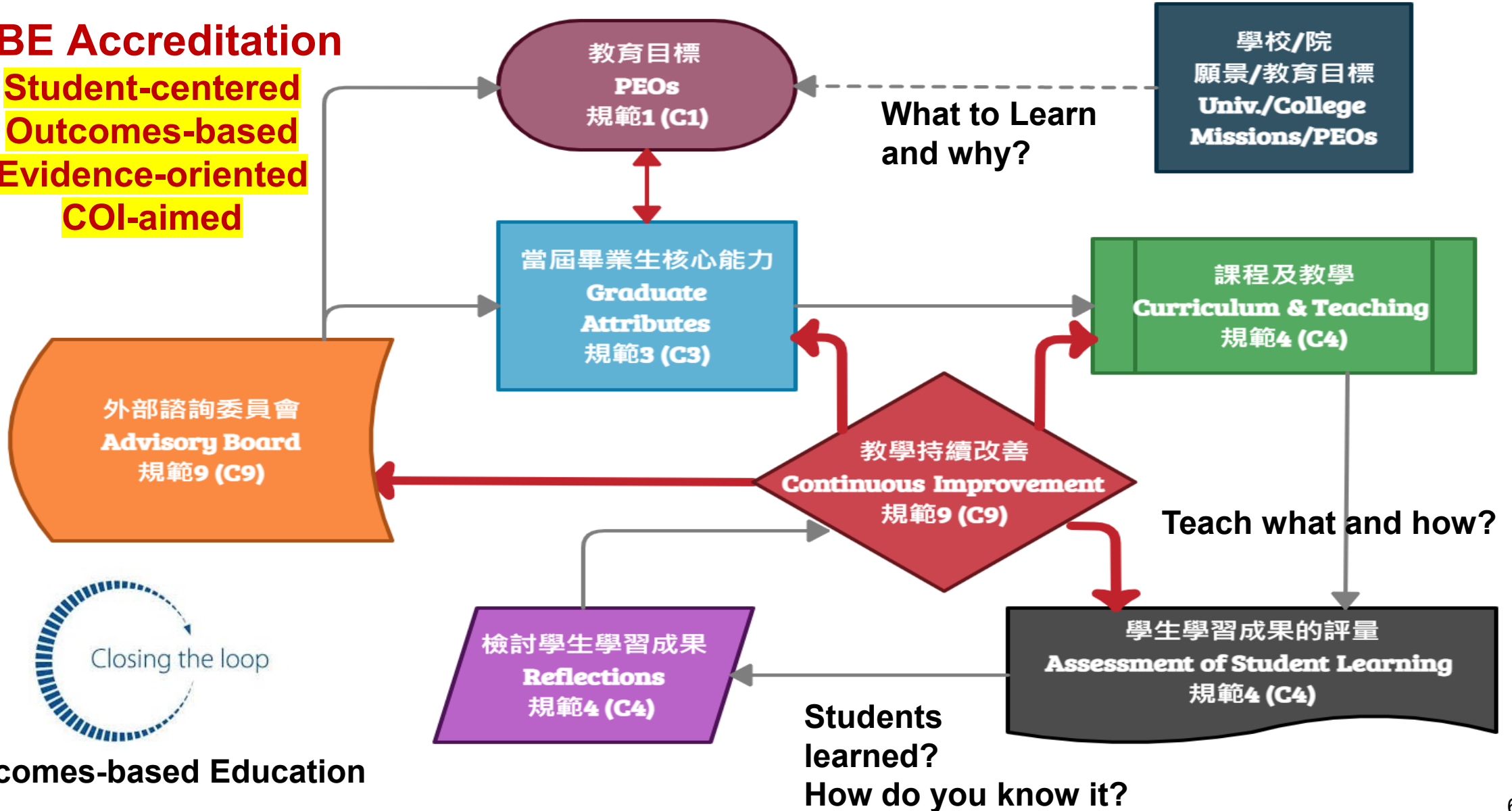


5 Accreditation Commissions

Discipline	Engineering Education	Computing Education	Technology Education		Architectural Education	Design Education
IEET Commission	Engineering Accreditation Commission (EAC)	Computing Accreditation Commission (CAC)	Technology Accreditation Commission (TAC)		Architectural Accreditation Commission (AAC)	Design Accreditation Commission (DAC)
Degree	Bachelor's Degree or above					
Professional Title/ Licensure	Professional Engineer 4-year Degree Program	Computing or IT-related field Professional Engineer 4-year Degree Program	Engineering Technologist (TAC) 4-year Degree Program	Technologist (GTAC) 4-year Degree Program	Architect 5-year Degree Program	Designer 4-year Degree Program
International Agreement	Washington Accord signatory Since 2007	Seoul Accord signatory Since 2009	Sydney Accord signatory Since 2014	N/A	Canberra Accord signatory Since 2020	N/A

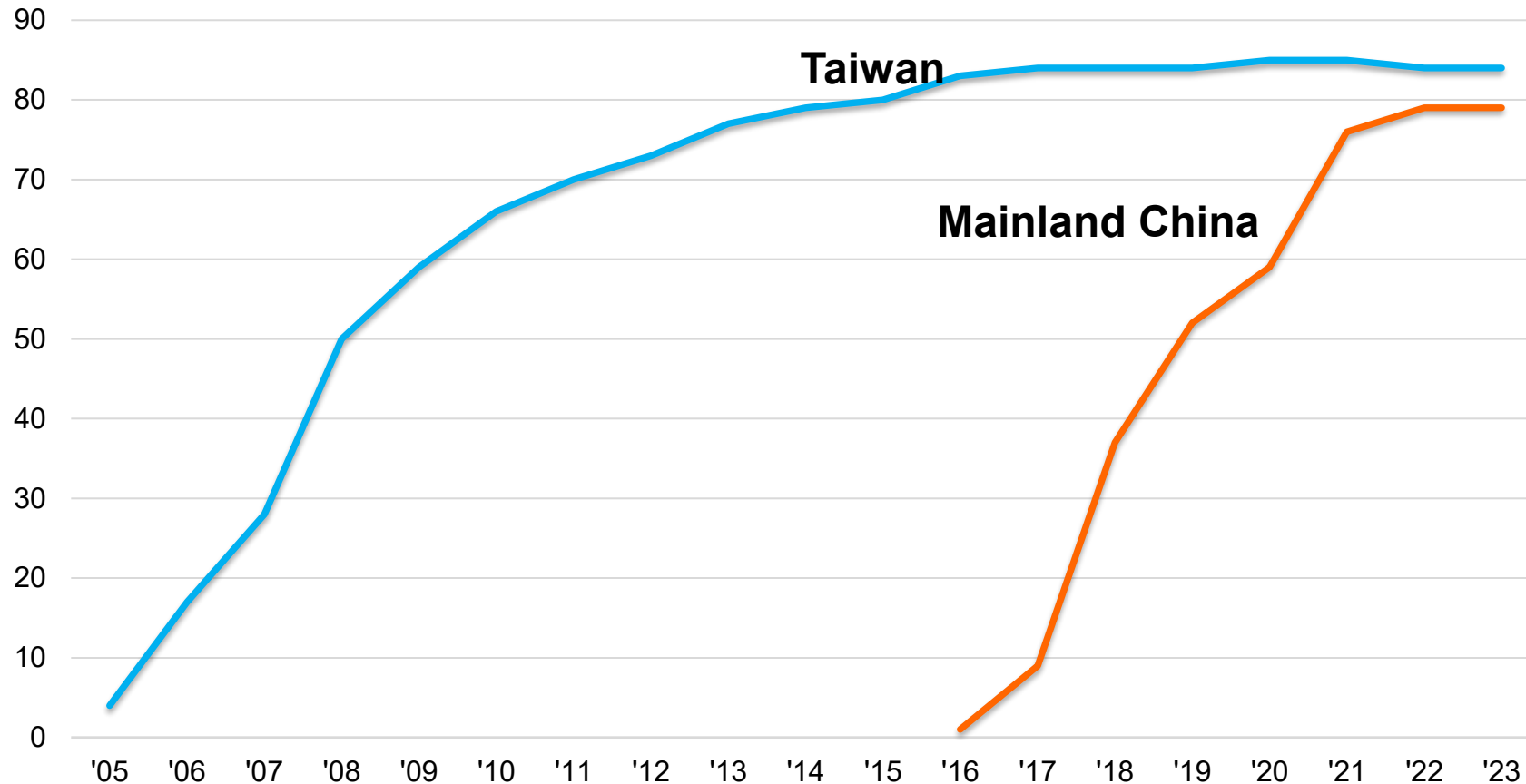
OBE Accreditation

Student-centered
Outcomes-based
Evidence-oriented
COI-aimed

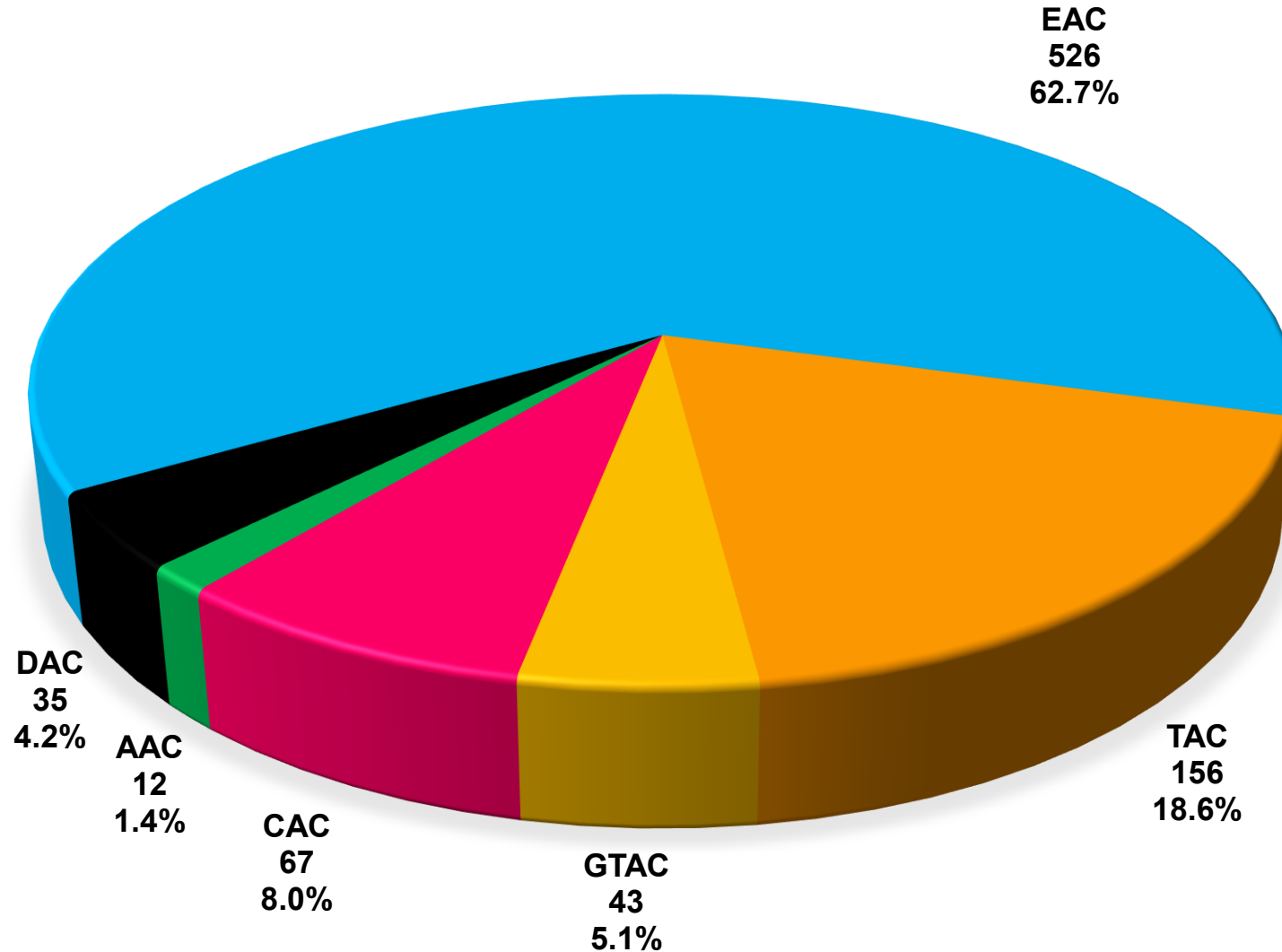


Outcomes-based Education

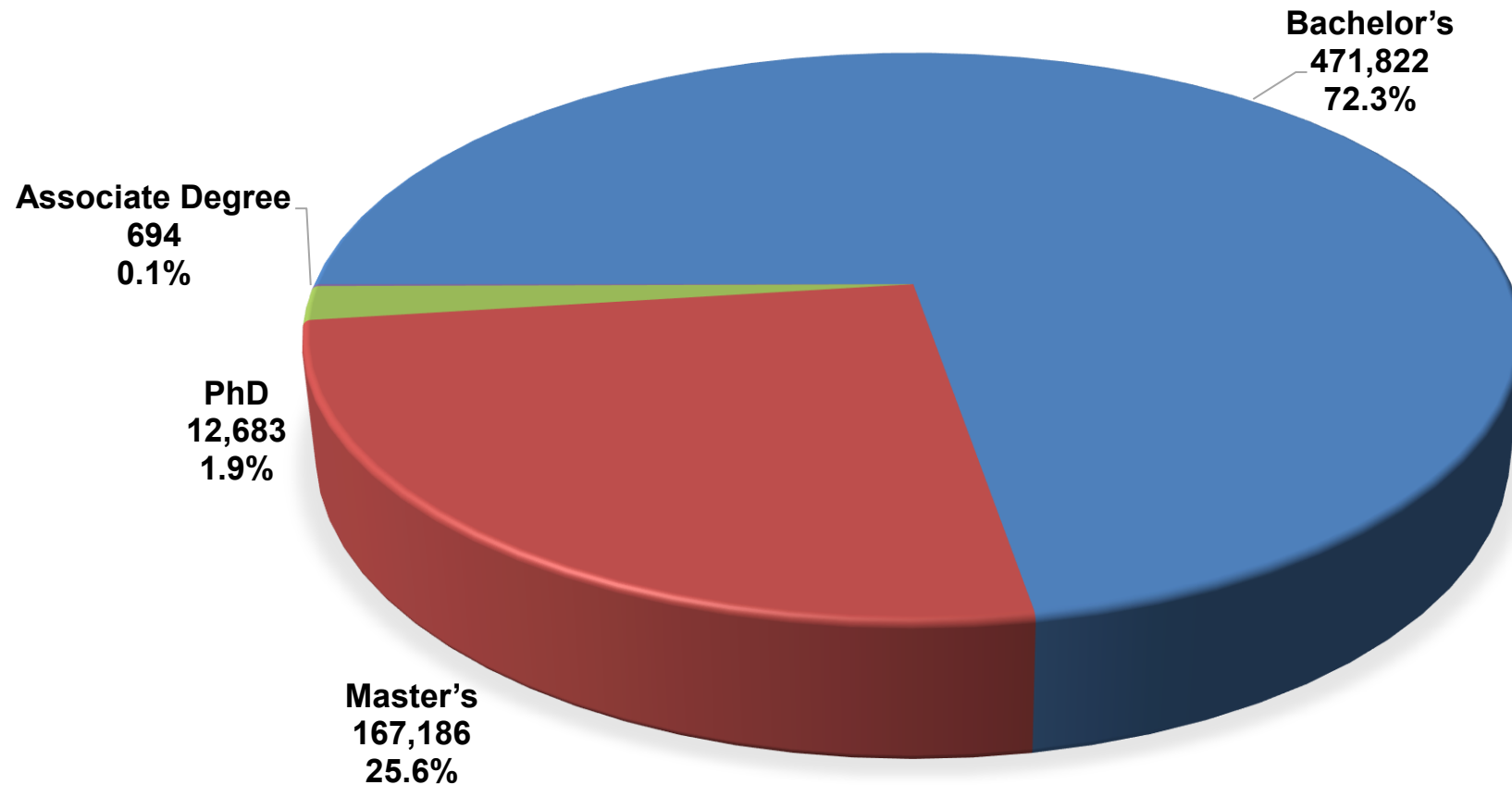
No. of HEI Participate in IEET Accreditation Taiwan (N=84) 、 Mainland China (N=79)



No. of Accredited Programs Taiwan (N=593) 、 Mainland China (N=246)



Graduates in Taiwan Recognized by IEET (About 652,000)



Service to the International Community

Serve on Intl Accord Executive Committee

- Washington Accord Chair (Prof. Andrew Wo)
- Sydney Accord Deputy Chair (Dr. Mandy Liu)

Recent Intl Accord Reviews

- 2022 Sydney Accord Review Team Chair (Prof. LJ Leu-Review of Australia)
- 2021 APEC Engineer Review Team Chair (Prof. LJ Leu-Review of Indonesia)
- 2018 Washington Accord Review Team Member (Dr. Mandy Liu-Review of Mexico)
- 2018 Sydney/Dublin Accord Review Team Chair (Prof. LJ Leu-Review of S. Africa)
- 2018 APEC Engineer Review Team Chair (Prof. LJ Leu-Review of Peru)

IEET is Mentoring...



**Myanmar/
Myanmar Engineering Council
Washington Accord**



**Thailand/
Council of Engineers Thailand
Washington Accord**



**Saudi Arabia/
ETEC
Seoul Accord**

Outlines



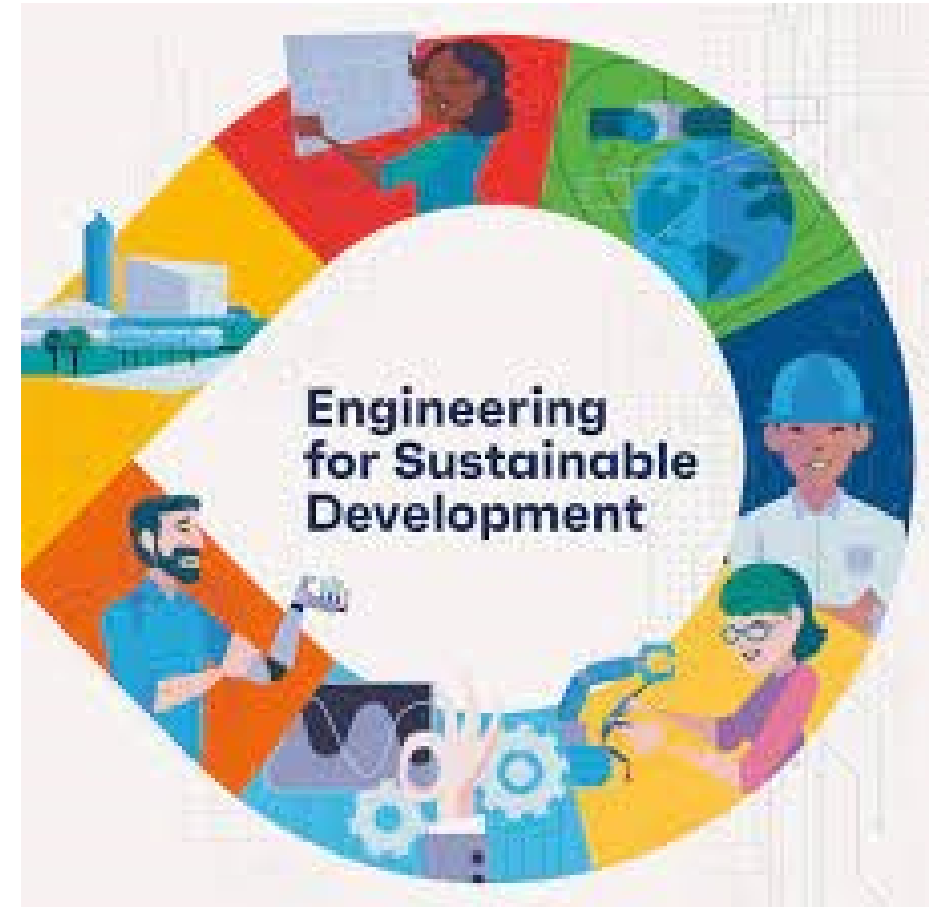
Maybe... the world we are in... needs not be defined just by pre or post pandemic, but by an array of challenges and opportunities, including the call for sustainability and new technologies...

COVID simply expedites what eventually would be happening...

Engineering Education Must Transform in the Face of the UN SDGs



ACT NOW



Engineering Education **MUST CHANGE**

For tomorrow's engineers to have the **RIGHT** knowledge and skills...

Establishing a society that copes efficiently with the unpredictability of complex systems, achieves zero-carbon targets, and is resilient to natural and human-made disruption **will not happen by chance**. It will **require careful analysis, different priorities, an engaged population and, above all...**

...a dramatically different engineering workforce – different not only in technical skills but also in **creativity, interdisciplinarity, flexibility, and motivation...**

Understanding complexity and the balance between resilience and efficiency will be essential skills.

[Royal Academy of Engineering

<https://www.raeng.org.uk/news/blog-posts/2021/september/preparing-future-engineers-for-the-net-zero-challe>]

But How... And, any Standards? Benchmark?



Released:

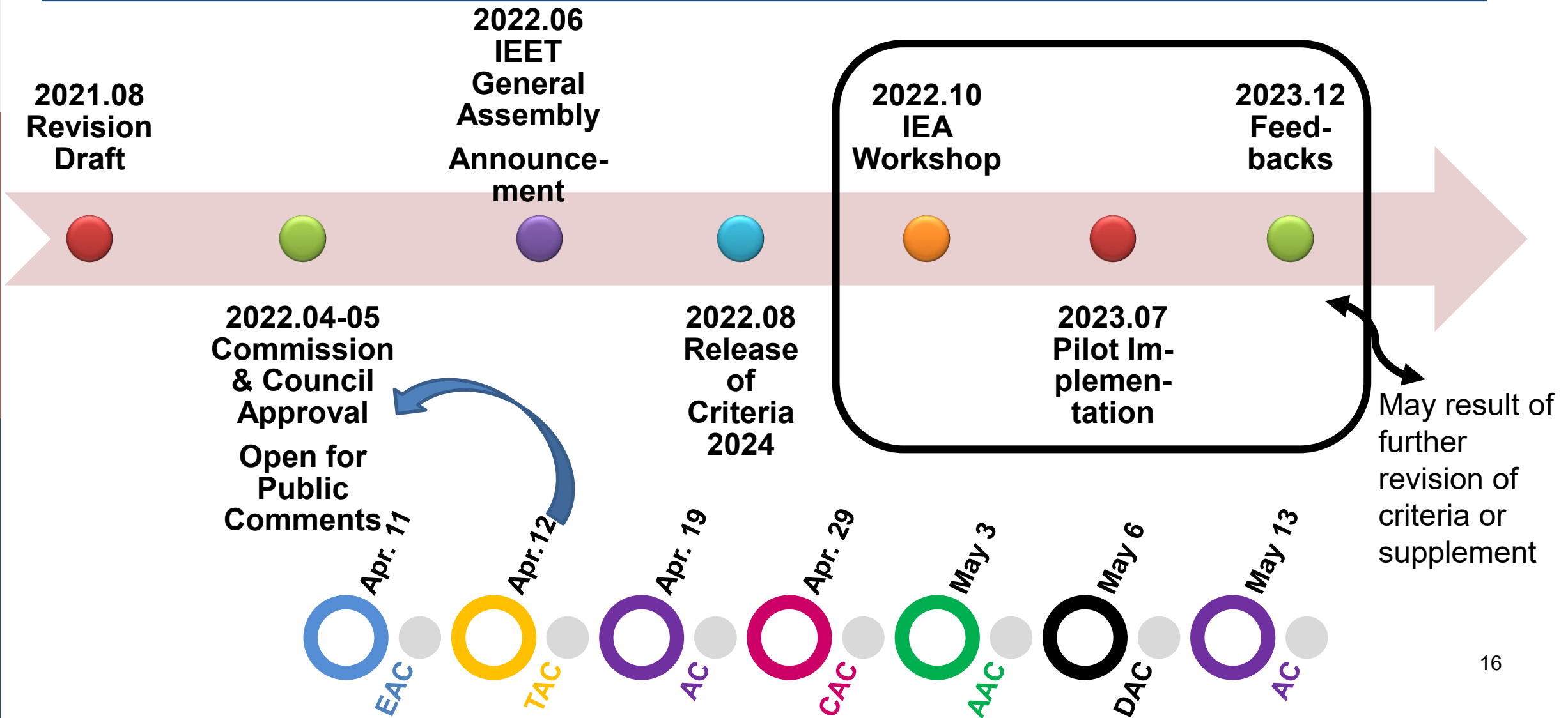
June 21, 2021

A Historical Collaboration

IEA Benchmark for

Graduate Attributes and Professional Competencies
(IEA GAPC)

IEET Roadmap for Implementation



Criteria	EAC2024 (GA)	Graduate Attributes	EAC2016 (GA)
3.1	ability to apply knowledge of mathematics, science, and engineering		ability to apply knowledge of mathematics, science, and engineering
3.2	ability to design and conduct experiments, as well as to analyze and interpret data		ability to design and conduct experiments, as well as to analyze and interpret data
3.3	ability to apply techniques, skills, and modern tools necessary for engineering practice		ability to apply techniques, skills, and modern tools necessary for engineering practice
3.4	ability to design an engineering system, component, or process		ability to design an engineering system, component, or process
3.5	ability to manage project, communicate effectively, work in multi-disciplinary environment, and function on teams		ability to manage project, communicate effectively, work in multi-disciplinary environment, and function on teams
3.6	ability to identify, formulate, research literature while incorporating considerations of sustainable development in delivering solutions for complex engineering problems		ability to identify, formulate, research literature and analyze complex engineering problems reaching substantial conclusions
3.7	knowledge of contemporary issues; an understanding of the impact of engineering solutions in an environmentally sustainable , societal, and global context; and the ability and habit to engage in life-long learning		knowledge of contemporary issues; an understanding of the impact of engineering solutions in an environmental, societal, and global context; and the ability and habit to engage in life-long learning
3.8	apply ethical principles and commit to professional and information ethics , and responsibilities and norms of engineering practice, and a sense of respect for diversity		apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice, ¹⁷ and a sense of respect for diversity

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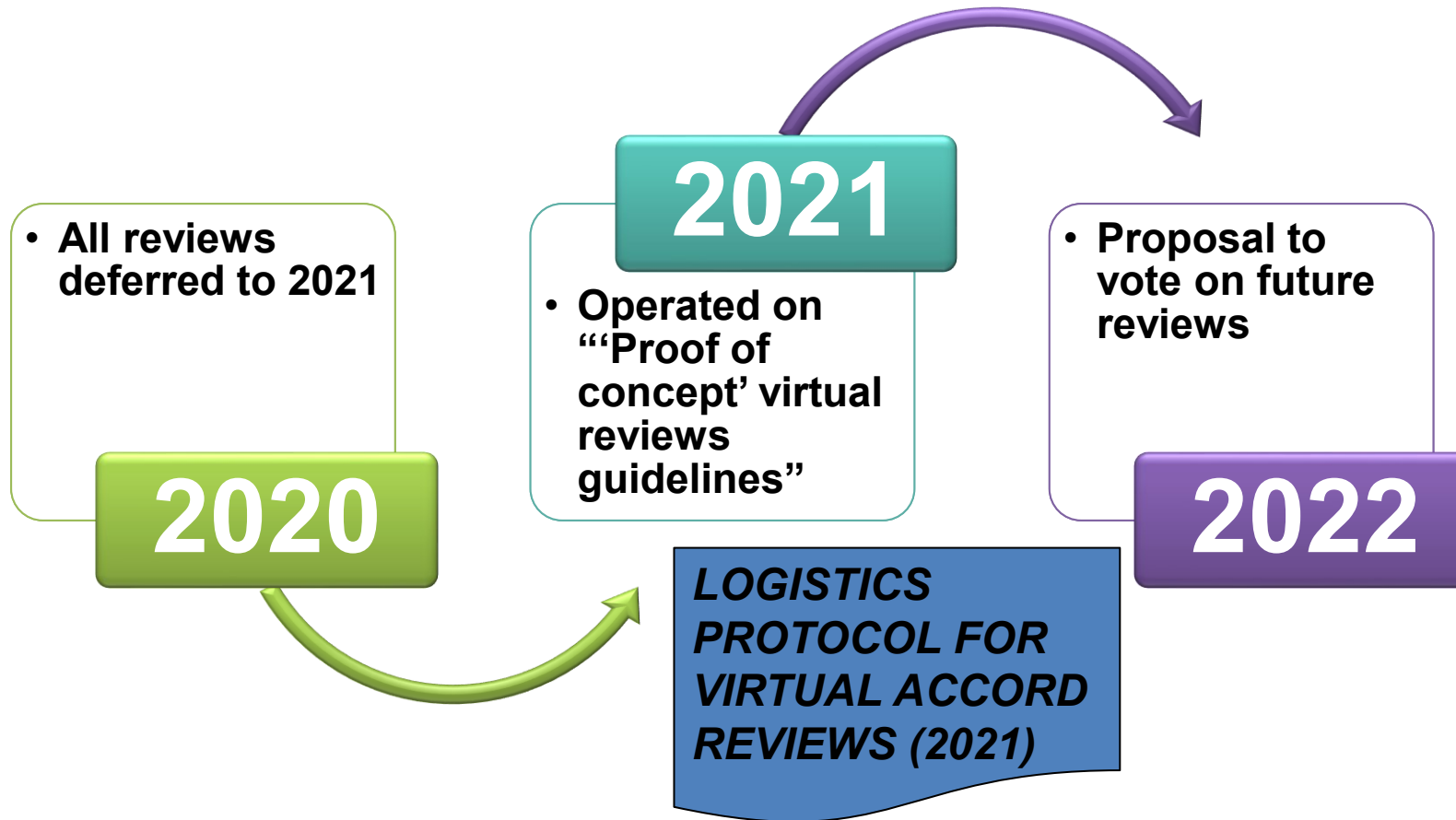


International
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Looking into the
Future

International Accords Virtual Reviews



No one has expected the pandemic would last such a long time... so rules and procedures were amended for temporary purpose...

LOGISTICS PROTOCOL FOR VIRTUAL ACCORD REVIEWS (2021)

The protocol covers the following:

Preparation and
Support for the
Accord Review
Team

Time (period of the
virtual visit needs
to be scheduled
longer than onsite
visits)

Time Zone
differences

Documentation

Translator

IT support

Tours of physical
infrastructure

On-site and Hybrid
Options

For Now... the General Sentiment

Periodic Review of Existing Signatories

- **Virtual review generally accepted**

Verification Review of New Applicants

- **Onsite review still preferred due to the ramifications of multi-lateral qualification recognition**

Accords Workshop in October 2022 Killarney, Ireland

All IEA Sessions

- IEA Business Model
 - Fee Structure
 - Marketing Strategy (IEA)
- Website Review
- Organisational Learnings from Covid-19
 - How do we want to move forward – is there opportunity to improve efficiency and sustainability etc?
 - What can we learn from our experiences working through the Pandemic? What will serve the IEA best moving forward?
 - Are there elements of technology (virtual meetings) or virtual processes (virtual reviews etc.) that the IEA should adopt on an on-going basis?
- Reflections and Learnings from Virtual Reviews – Including feedback from 2021 'proof of concept'.
- GAPC
 - Impacts – How do these affect each Accord & Agreement?
 - Implementation – Best Practice Sharing of Implementation Plans
 - Implementation – Gap Analysis Workshop
 - Interpretation – Progress on Translations/Approval of the Various Translations

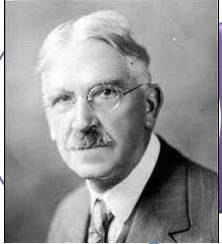
Accord Sessions

- Accord Review Process Refinement
- Requests by HEI for Accreditation
- Clarifications of expectations regarding OBE/OBA Implementation by Provisional Signatories
- Clarification of expectations regarding Guideline Rule C.3.4



Center Around
-Post Pandemic
-UNSDGs
 QA of
 Engr. Education
 &
 Accreditation

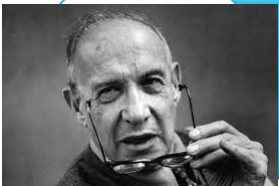
Takeaway...True Reflections



“We do not learn from experience... we learn from reflecting on experience.” [John Dewey]



“To improve is to change, to be perfect is to change often.”
[Winston Churchill]



“Follow effective action with quiet reflection. From the quiet reflection will come even more effective action.” [Peter Drucker]

Thank You

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**Accreditation is at the intersection of education and profession.
We must be the conscience of quality and source of confidence.**

