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Organized by

BAETE, IEB

Challenges and Best Practices in Preparing for Full Signatory Status in Washington Accord

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Key Points

This paper examines the challenges and best practices in preparing for full-signatory status in Washington Accord.

- The graduate outcomes standard applied for accreditation is substantially equivalent to the Washington Accord's Graduate Attributes;
- Established and sustainable accreditation system;
- Robust accreditation Processes;
- Checklist for Accord verification review.

Verification Review

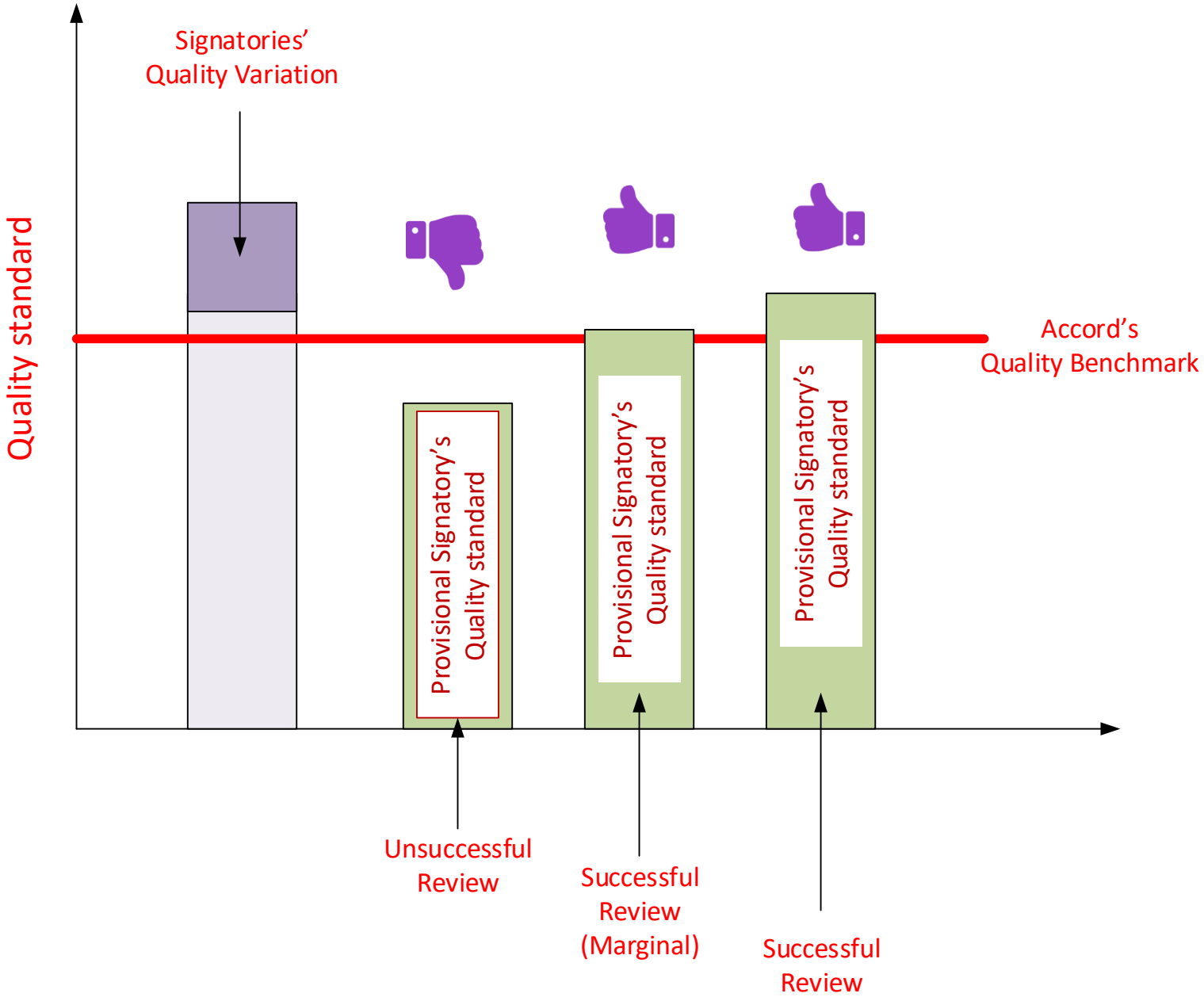
- For a provisional signatory of Washington Accord to attain full signatory status the applicant must demonstrate substantial equivalence of its standards and processes in a verification review by a team of 3 members drawn from the signatories
- The review recommendation for admission must be approved by unanimous agreement of the signatories

Types of Review

- Periodic review of signatories
- Continuous monitoring/review
- Assessment/verification review for transfer from Provisional to Full Signatory

Accord Review vs Program Evaluation (Accreditation)

- Reviews in the educational Accords ensure quality in the entire accreditation process.
- Different from accreditation evaluation of engineering programs


Signatories'
Quality Variation
Quality standard
Accord's
Quality Benchmark
Provisional Signatory's
Quality standard
Provisional Signatory's
Quality standard
Provisional Signatory's
Quality standard
Unsuccessful
Review
Successful
Review
(Marginal)
Successful
Review

Quality Standard?

- Articulated in terms of criteria
- Reviewers have to conduct thorough assessment and evaluation
- Holistic judgement and recommendations

Two guiding documents for Accord Review

INTERNATIONAL ENGINEERING ALLIANCE

INTERNATIONAL ENGINEERING ALLIANCE:

EDUCATIONAL ACCORDS

WASHINGTON ACCORD 1989

SYDNEY ACCORD 2001

DUBLIN ACCORD 2002

Accord Rules & Procedures

PREAMBLE

The Washington Accord, Sydney Accord and Dublin Accord are three multi-lateral agreements between groups of jurisdictional agencies responsible for accreditation or recognition of tertiary-level engineering qualifications within their jurisdictions who have chosen to work collectively to assist the mobility of engineering practitioners (i.e. professional engineers, engineering technologists and engineering technicians) holding suitable qualifications. Membership (called being a signatory) is voluntary, but the signatories are committed to development and recognition of good practice in engineering education. The activities of the Accord signatories (for example in developing exemplars of the graduates' profiles from certain types of qualification) are intended to assist growing globalisation of mutual recognition of engineering qualifications.

VERSION: 2019.1

The documents presented in this compendium are current as at 1st July 2018.

INTERNATIONAL ENGINEERING ALLIANCE

REVIEW HANDBOOK v1:

WASHINGTON ACCORD

SYDNEY ACCORD

DUBLIN ACCORD

INTERNATIONAL PROFESSIONAL ENGINEERS AGREEMENT

APEC ENGINEER AGREEMENT

INTERNATIONAL ENGINEERING TECHNOLOGIST AGREEMENT

C.5.2.1

- The review process will normally include *visits to at least two educational providers including a total of at least four programmes* undergoing evaluation and normally at least two Team members will physically take part in the visit.

- In addition, at least one Team member shall observe a meeting of the accreditation (decision) / recognition board or other body responsible for final accreditation / recognition actions; this observation may be done either physically or non-physically, that is, via electronic or other means.

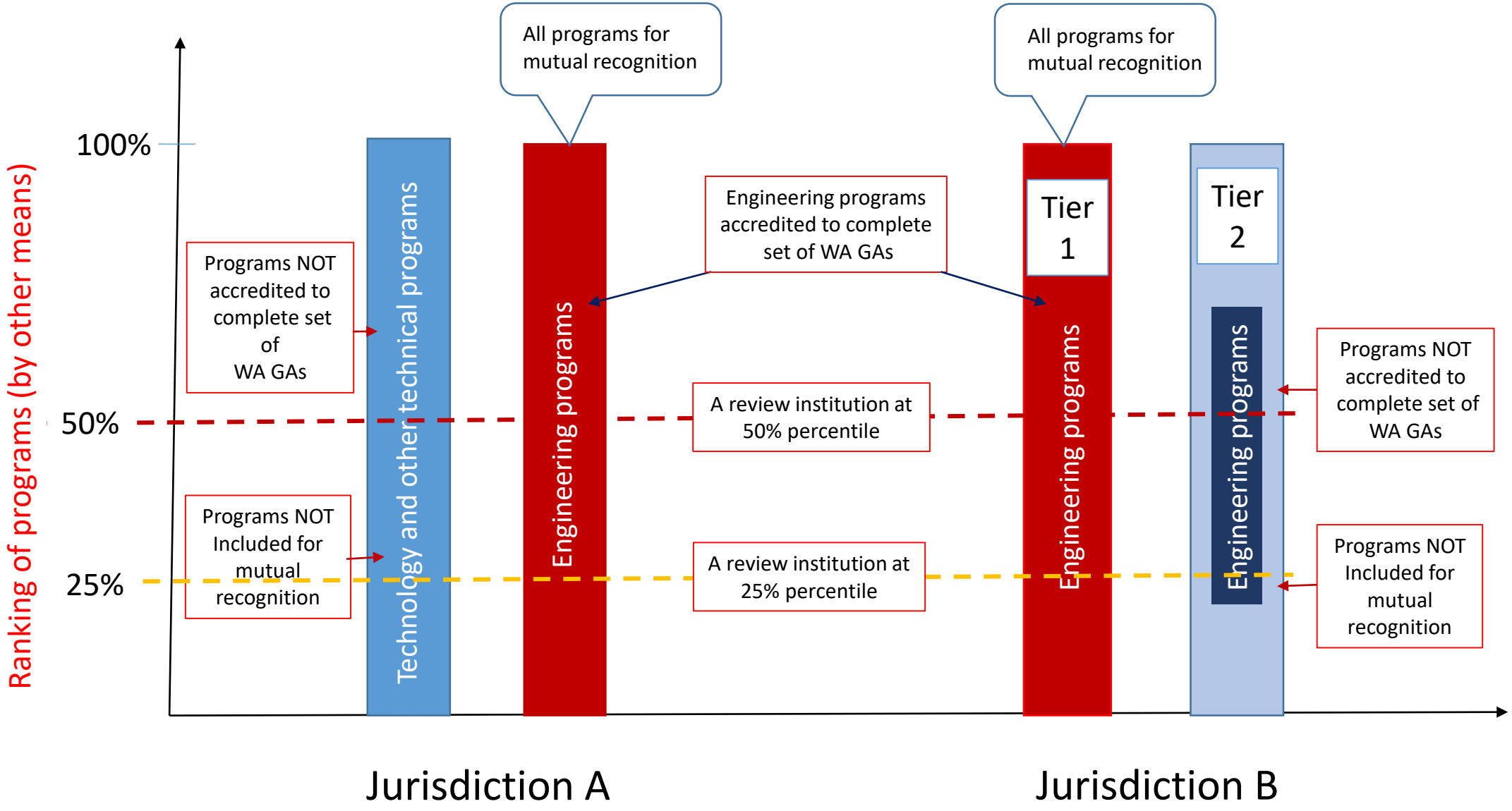


Illustration of programs for mutual recognition and selection of institutions for review visit

Criteria for Admission to Provisional Signatory Status in an Accord

Schedule B1

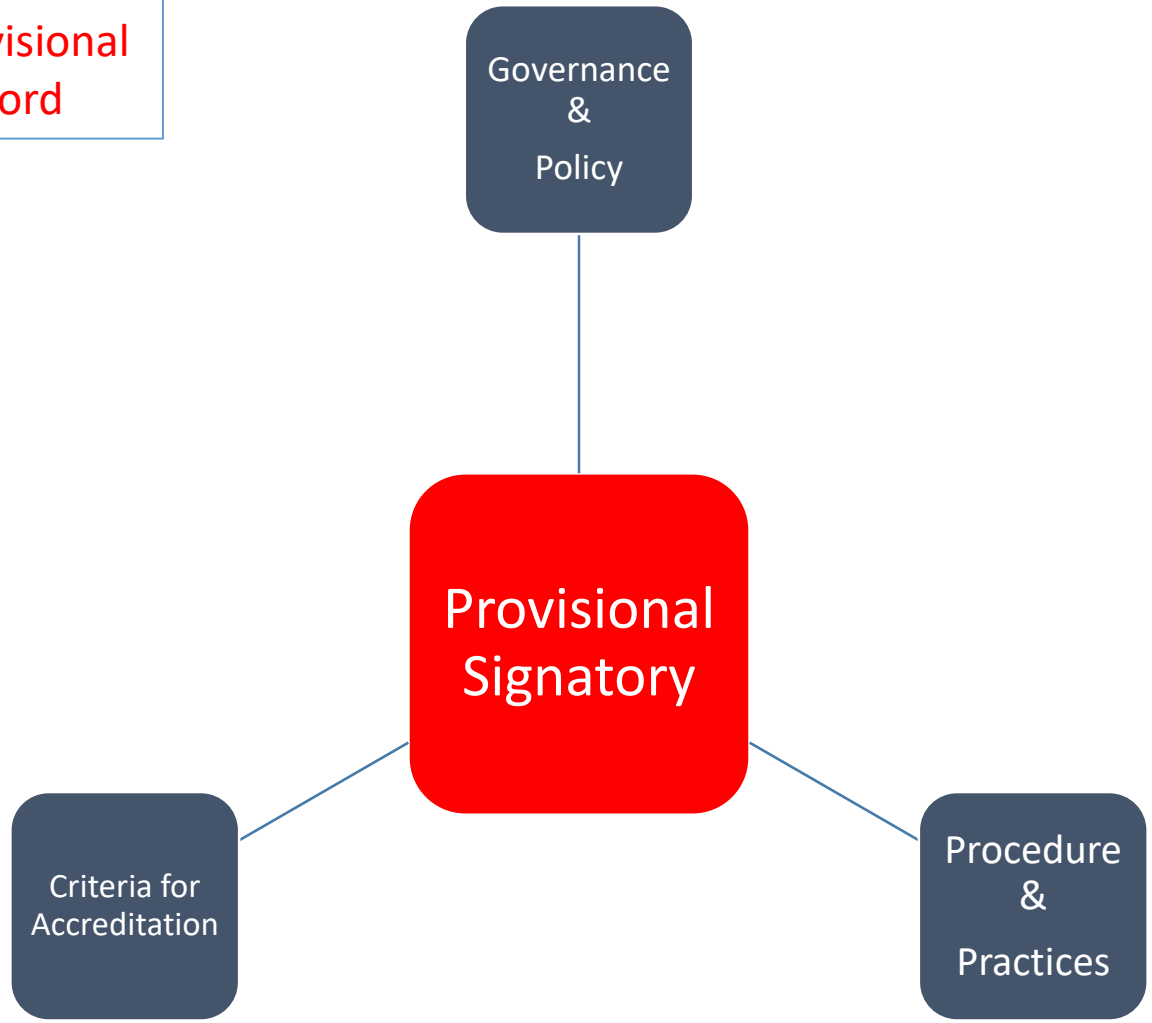
Note that these criteria should also be verified during the periodic review of Signatories and during assessment visit for transfer from Provisional Signatory to full Signatory status

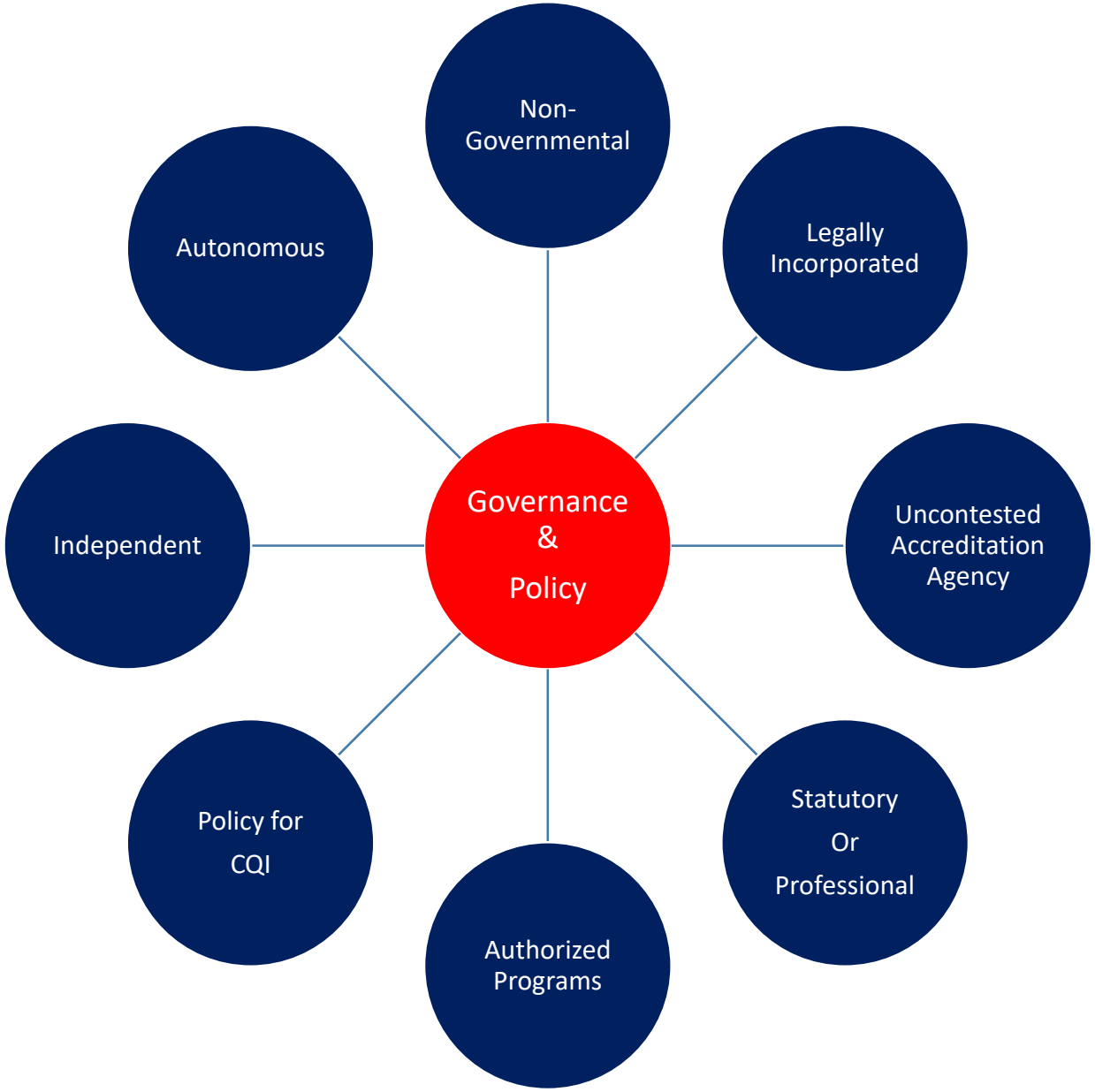
Fundamental Accord Requirements

- Washington Accord – 12 + 4 = 16 years or equivalent
- Sydney Accord –
- Dublin Accord

Schedule B1 – Rules & Procedure

Criteria for Admission to Provisional Signatory Status in an Accord




Non-
Governmental
Autonomous
Legally
Incorporated
Independent
Governance
&
Policy
Uncontested
Accreditation
Agency
Policy for
CQI
Statutory
Or
Professional
Authorized
Programs

Criterion 1 – Governance and policy of the accrediting agency

a) Non-governmental
   - Examples of ECSA, BEM and PEC being statutory boards
   - More importantly, the operation and decision-making should be independent and professional, without outside interference

b) Legally incorporated
   - IEB/BAETE, NBA examples

Criterion 1 – Governance and policy of the accrediting agency

c) Is the uncontested accreditation agency of the engineering community in the jurisdiction; or, if circumstances in the jurisdiction allows multiple accreditation agencies, the applicant must be the prominent authority in accreditation of programmes;
   - Independent verification necessary to check support of key stakeholders in the jurisdiction
   - Examples of an umbrella body: ECUK, CAST, PTC

Criterion 1 – Governance and policy of the accrediting agency

d) Is a statutory or professionally recognised authority to accredit programs satisfying academic requirements for admission to practicing status (e.g. licensing, registration) in a jurisdiction;
   - Separate accrediting body from licensing/registration agency – undertaking from latter to recognized respective Accord accredited programs

Criterion 1 – Governance and policy of the accrediting agency

e) Accredits programmes at institutions that have legal authority to confer higher education degrees qualifications;
   - Example of degrees offered by overseas universities
   - Verify the accreditation system is embraced by top universities in jurisdiction, not merely from lesser institutions; both public and private institutions

f) Has policies to set, approve, evaluate and execute accreditation criteria and procedures;
   - Example of “accrediting body” conducting the accreditation as a licensed agency based on policy, criteria and procedures established by a government body

Criterion 1 – Governance and policy of the accrediting agency

g) Is independent of the educational providers delivering accredited programmes in its jurisdiction;
   - Example of Deans Council setting up accreditation board
   - AICTE's role in accreditation in India - historical

h) Has autonomy to make accreditation decisions independent of stakeholder influence.
   - Example of "accrediting body" conducting the accreditation as a licensed agency based on policy, criteria and procedures established by a government body

Criterion 2 – Procedures and practices of accreditation system

a) The accreditation criteria and procedures are documented, publicized, and applied in accordance with set policies;

b) The system accredits programmes or coordinated groups of individually identified programmes;

To verify by:

i) examination of documents: accreditation manual, published policy, criteria and procedures

ii) available website information

iii) self-assessment report, and further information requested

Criterion 2 – Procedures and practices of accreditation system

c) Programme assessors are academic and industry peer reviewers;

d) There are mechanisms and documentation for training the programme assessors;

To verify by:

i) PEVs selection and training practice

ii) examination of list of PEVs and training records, where applicable

iii) interaction with PEVs of accreditation visits to be observed

Criterion 2 – Procedures and practices of accreditation system

e) Programme evaluation requires a self-evaluation and site visit;

- English translation of program self-evaluation or self-assessment reports (SARs) will be provided to Accord Reviewers before site visit
- Mindful that campus accreditation visit is primarily for Accord review team to observe the work of the PEVs – whether a rigorous process is practiced to evaluate compliance with stated criteria, with particular emphasis on SLOs

f) Periodic re-evaluation is required to maintain accreditation;

- Not more than 6 years in practice

Criterion 2 – Procedures and practices of accreditation system

g) Individual program evaluation is conducted in confidence;

h) Mechanisms for addressing conflict of interest at all stages of the process exist;

i) A list of accredited programmes is published;

j) An appeal process exists.

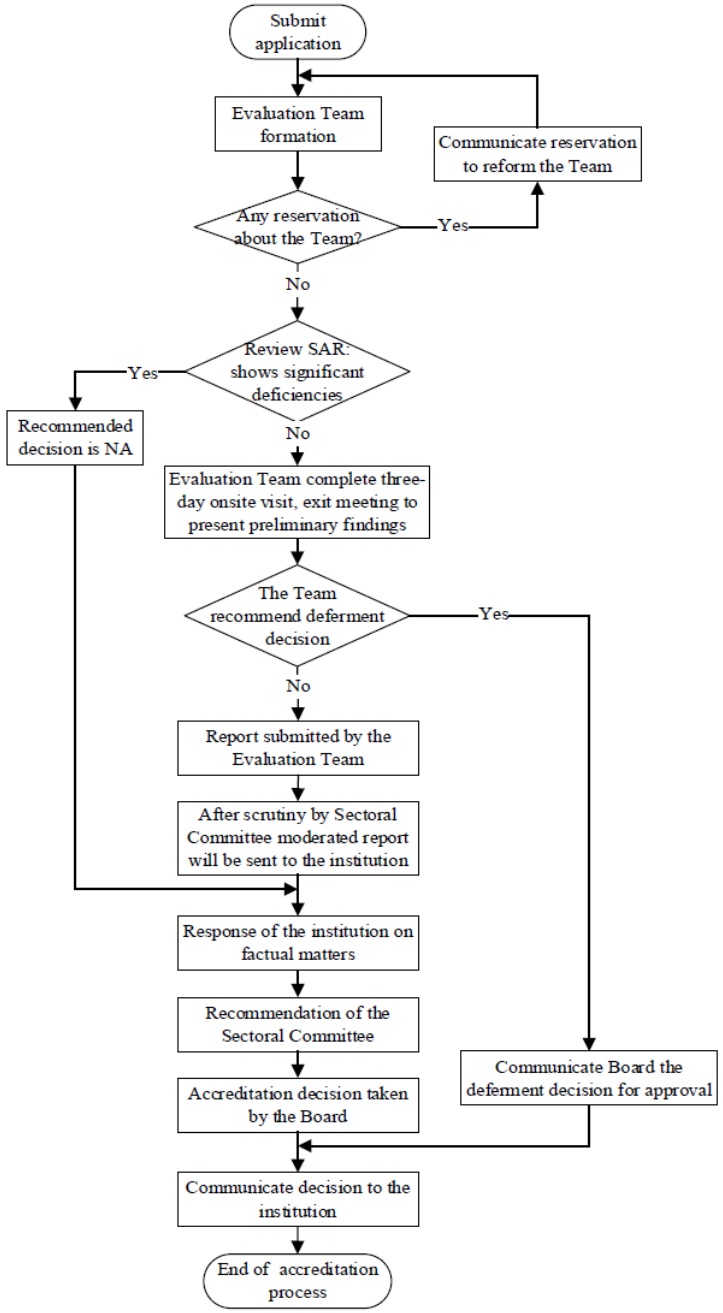
To verify by:

i) Examination of published documents

ii) Observation of accreditation visits and decision meeting(s) for COI

iii) Check website for list of accredited programmes

BAETE
Accreditation Process



Criterion 3 – Agency's criteria for accreditation

a) Programme outcomes that are consistent with the purpose of the programme
b) A curriculum providing a broad basis for engineering practice;
c) A suitable environment to deliver the programme;
d) Adequate leadership for the programme;

Criterion 3 – Agency's criteria for accreditation

e) Suitably qualified engineering practitioners teaching in the programme;

f) Appropriate entry and progression standards; a

g) Adequate human, physical and financial resources for the programme.

- Continuous quality improvement (CQI) system
- Outcomes assessment

Accreditation Criteria - BAETE

1) **Organization and governance**
2) **Financial and physical resources**
3) **Faculty**
4) **Students**
5) **Academic facilities and technical support**
6) **Curriculum and teaching-learning processes**
7) **Program educational objectives (PEO)**
8) **Program outcomes and assessment**
9) **Continuous quality improvement**
10) **Interaction with the industry**
11) **Program specific criteria**

Criteria for Admission to and Maintenance of Signatory Status in an Accord

Schedule B2

Schedule B2

Criteria for Admission to and Maintenance of Signatory Status

SE to Accord GAs Exemplar

SE to signatories

Criteria for admission to and Maintenance of Signatory Status in an Accord

- The criteria apply to
  - A provisional signatory under consideration for admission as signatory to an Accord; or
  - A signatory undergoing periodic review
- Accreditation agencies under review must:
  - Continue to satisfy the requirements defined in Schedule B1; and
  - Satisfy criterial 4, 5 and 6

Criterion 4 – Accreditation system and processes

a) High standards of professionalism, ethics and objectivity;
   - Board members, PEVs, staff; the whole accreditation system

b) All involved in programme evaluation are competent in the agency's accreditation system, and are of high standing as educators or practitioners in the profession;
   - Selection and training of PEVs; feedback & evaluation

c) The defined evaluation standards and processes are applied consistently and fairly;
   - Published accreditation policy & criteria; outcomes standards; evaluation and decision making process
   - Consistency check

Criterion 4 – Accreditation system and processes

d) The accreditation report records and justifies accreditation recommendations in sufficient detail to support decision-making and clearly differentiates recommendations from requirements.
   - Rigorous evaluation based on SAR, supporting documents, on campus assessment
   - Accreditation report template requires detailed examination of all criteria to arrive at holistic judgements supported with reasons for recommendations and requirements

Criterion 4 – Accreditation system and processes

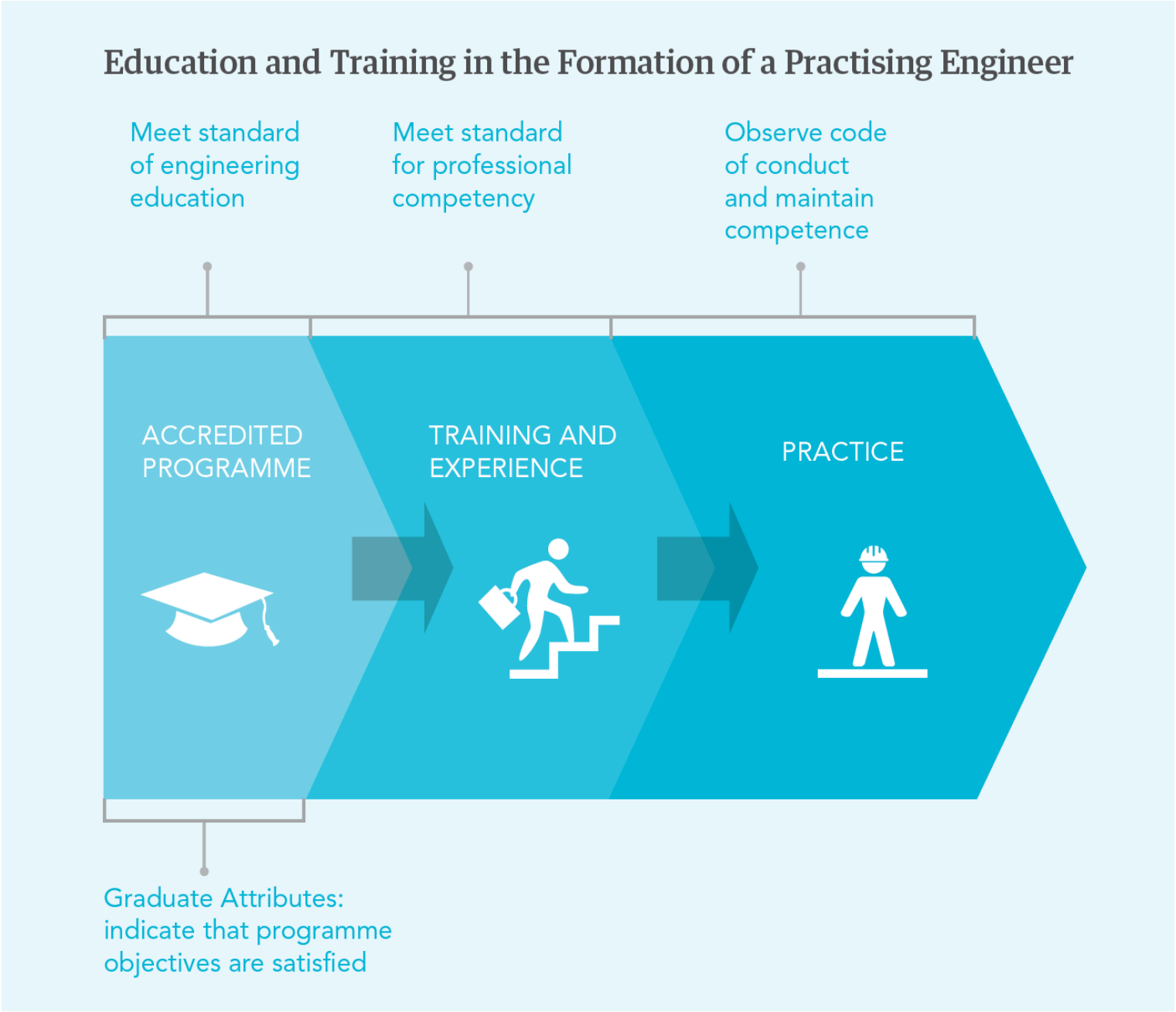
e) The decision making body demonstrates capacity to make difficult decisions in a way likely to be beneficial to the engineering community in the longer term.
   - Quality and competence of members in decision making body
   - Examples of difficult decision

Criterion 5 – Graduate outcomes standard

- The graduate outcomes standard applied for accreditation is substantially equivalent to the Accord as exemplified by the Graduate Attribute exemplars as reflected in:
  a) The agency's documented programme outcome standard;
  b) The standard required of accredited programs in practice.
    - Student Learning Outcomes (SLOs) demonstrated with evidences for attainment at the appropriated breadth and depth as defined by WA GAs
    - Faculty competent in outcomes assessment tools

Education and training in the formation of a practicing engineer

IEA publication:
25 Years Washington Accord



INTERNATIONAL ENGINEERING ALLIANCE

Constituent Agreements

Washington Accord	International Professional Engineers Agreement
Sydney Accord	International Engineering Technologists Agreement
Dublin Accord	APEC Engineer Agreement

Graduate Attributes and Professional Competencies

Version 3: 21 June 2013

This document is available through the IEA website: http://www.ieagreements.org.

Executive Summary

Several accrediting bodies for engineering qualifications have developed outcomes-based criteria for evaluating programmes. Similarly, a number of engineering regulatory bodies have developed or are in the process of developing competency-based standards for registration. Educational and professional accords for mutual recognition of qualifications and registration have developed statements of graduate attributes and professional competency profiles. This document presents the background to these developments, their purpose and the methodology and limitations of the statements. After defining general range statements that allow the competencies of the different categories to be distinguished, the paper presents the graduate attributes and professional competency profiles for three professional tracks: engineer, engineering technologist and engineering technician.

Evaluation of Graduate Outcomes Standard

The graduate outcomes standard applied for accreditation is substantially equivalent to the Accord as exemplified by the Graduate Attributes exemplars as reflected in:

a) The agency's documented programme outcome standard;

b) The standard required of accredited programs in practice;

c) The actual assessment and evaluation implemented by the programme based on outcomes-based accreditation;

d) The awareness of outcomes-based accreditation by the agency's programme evaluators;

e) The knowledge and understanding of outcomes-based accreditation by the agency's key officers and staff personnel.

Criterion 6 – Sustainable accreditation system

a) Data from institutions offering educational programs that have sought accreditation in the jurisdiction;

b) Data regarding programs that have sought accreditation in the jurisdiction;

To review data and statistics such as:

i) Overview of engineering education and practices in the jurisdiction

ii) Number of HEIs offering engineering programs and total number of engineering programs

iii) Number of accredited programs and spread among public & private institutions

Criterion 6 – Sustainable accreditation system

c) The extent to which programs have gone through a full accreditation cycle and been re-evaluated;
   - Verify that accreditation system is sufficiently mature and sustainable
   - Adoption of WA GAs and in practice by HEIs

d) The **depth of considerations** observed during the *accreditation visit and decision making meeting* enabling appropriate accreditation outcomes to be achieved for a range of evidence of programme quality;
   - Mindful of evidence-based holistic judgement, not bean-counting approach
   - Depth of considerations at decision-making meeting, not to question findings and recommendations of PEVs on personal perceptions

Criterion 6 – Sustainable accreditation system

e) Mechanisms for the periodic review of accreditation policies, criteria and procedures;
   - Documented periodic or ad hoc review policy?
   - Check and verify whether periodic review conducted

f) The depth of training of programme assessors;

g) The accreditation programme is led by personnel with appropriate expertise in engineering education, engineering practice and educational quality assurance;
   - PEVs selection and training practice
   - examination of list of PEVs and training records, where applicable
   - interaction with PEVs of accreditation visits

   - For Discussion: Could weaknesses in PEVs be compensated by accompanying salaried Accreditation Manager or Associated Director?

Criterion 6 – Sustainable accreditation system

h) Separation of policy making from accreditation decision making
   - Verify by examining the governance and structure of the accrediting body

i) Mechanism exists to make consistent accreditation decisions sustainably;
   - Consistency check for programs of diverse disciplines of an institution
   - Consistency check for programs of same disciplines among HEIs

j) The agency's history of involvement (if any) with other Education Accords under the International Engineering Alliance with evidence of general, consistent conformance with published accreditation policies and procedures.

BAETE – SWOT Analysis

Strengths

- Strong support including financial resources from parent organization – IEB
- Committed BAETE leadership
- Well-developed and fairly robust outcomes-based accreditation system through mentoring since 2016
- Full adoption of the 12 WA Graduate Attributes as outcomes standard
- A core group of competent programme evaluators for OBA
- Successful engagement with universities offering engineering programmes
- BUET's participation in offering its programmes for accreditation
- Values of accreditation by BAETE-IEB are recognized by stakeholders

Weaknesses

- Many public and private universities are still not sufficiently prepared for OBA
- Some less-endowed private universities do not have the physical resources and qualified faculty to engage in outcomes-based education

Opportunities

- Uplifting overall engineering education standards through outcomes-based accreditation system benchmarked to WA graduate attributes
- Greater recognition of accreditation by BAETE-IEB to follow successful admission as WA signatory
- Positive shake-up of engineering education providers, particularly the private university sector,

Threats

- The Past Chairman of BAETE is a predominant rallying figure for BAETE – important to ensure smooth succession with strong leadership
- Diminishing outcomes standards and compromising decision-making may follow the expected surge for accreditation applications on succession admission as a full signatory – need to uphold benchmark standard and consistency

Challenges

- BAETE-IEB must demonstrate substantial equivalence of its standards and processes in a verification review
- Verification review likely to take place in last quarter of 2021
- The review recommendation for admission must be approved by unanimous agreement of the signatories
- Some signatories expressed concern that BAETE's Outcome-Based Accreditation system may not be sufficiently robust and well-developed at the time of VR
- Stakeholders must work together to be ready for the review

Q & A