



PROPOSAL:

Ref: IEM/2023/WFEO/Federation's Standing Technical Committees (STCs)/Proposal

Proposal for hosting the Technical Standing Committee on Engineering for innovative Technologies (CEIT)

by

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1.0 INTRODUCTION OF CEIT

The Committee on Engineering for Innovative Technologies (CEIT) has set its objectives in the area of technological advancements to identify and promote suitable technologies for sustainable development, especially in the context of the UN Sustainable Development Goals and the relevant agenda.

1.1 Four years strategic plan (2023-2027)

CEIT Vision

WFEO-CEIT undertakes to lead the engineering profession worldwide towards promotion and application of engineering for innovative technologies for sustainable development and helping developing countries to close the technology gap which is essential to sustain the UN's 2030 Sustainable Development Agenda.

WFEO-CEIT is dedicated to being a leading international comprehensive platform for engineering professionals from multi-stakeholders to:

- Promote ethical and responsible development and application of Big Data and Artificial Intelligence.
- Identify the next innovative technologies for sustainable development.
- Share the innovative engineering experience in building a sustainable society.
- Enhance the national and international collaboration among multi-stakeholders to promote innovative technology engineering for facilitating a sustainable world.

CEIT Mission

The core mission of CEIT is to promote engineering of innovative technology for sustainable development, including:

- To represent the engineering profession internationally, providing the collective wisdom and leadership of the profession to assist national agencies choose appropriate policy options that address the most critical issues affecting countries of the world.
- To play a leading role in the identification of essential issues on the innovative technologies for sustainable development and to sustain the UN's 2030 Sustainable Development Agenda.
- To make information on engineering available to the countries of the world and to facilitate communication between its members nation to the world's best practices in key engineering activities.
- To enhance the practice of engineering and facilitate the transfer of innovative technologies from achievement to actual productivity, real industrial production and engineering practices.

- To encourage interactions among multi-stakeholders like engineering professionals, governments, financing institutions along with civil societies for promoting public private partnerships for developing and applying innovative technologies.
- To serve society and to be recognized by national and international organizations and the public, as a respected and valuable source of advice and guidance on the policies, interests and concerns that relate engineering and technology to the human and natural environment.
- To promote ethical and responsible development and application of innovative technologies in engineering for sustainability of human being.
- To enhance capacity building in nurturing innovative engineering talents.
- To host conferences, seminars and training to enhance engineering practices worldwide.

CEIT Main Activities

- To cooperate with the International Science Council (ISC) to expand further on the position paper on Big Data Ethics, which aims to reach consensus between all stakeholders to attain responsible application of Big Data and Artificial Intelligence.
- To support the activity of the World Engineering Day (IDoE) and provide an annual focus on the essential role of engineering in modern life.
- To cooperate with the Standing Committee on Young Engineers / Future Leaders (YE/FL) to organize training courses or lectures to transfer knowledge of innovative technology for continuing education.
- To organize workshops and symposiums to exchange technical ideas, engineering experience to promote innovative technology implemented in engineering.
- To cooperate with other WFEO STCs and international/national members in CEIT mission relevant activities.

Focused Areas

1. To continue with the focus areas selected by the previous Committee as the main strategic goal of the four-year plan:

(A) Big Data

To promote open and equal access to and proper treatment of data worldwide and narrow the data-divide between developed and developing countries.

To exchange new ideas of implementing innovative Big Data technologies into socio-environmental problems in the fields of social life, such as transportation, education, health care production and consumption, infrastructure, banking and finance.

(B) Artificial Intelligence

To share the vision of the potential of Artificial Intelligence in improving, accelerating, and supporting sustainable development.

To facilitate the adoption of Artificial Intelligence in the traditional fields of engineering for enhancing productivity, quality and achieving sustainable development.

(C) Innovative Technologies

To identify the next innovative technologies for sustainable development and to enhance collaboration among multi-stakeholders to promote innovative technology engineering for facilitating a sustainable world.

2. To further enhance the focus of the previous Committee with regard to SDG Goal 9 which in simple terms refers to initiatives and programmes for a society to grow. This entails the development of quality and resilient infrastructure and the promotion of inclusiveness as well as sustainable industrialization, to support economic development and human well-being.

The main Project: Innovative Technologies Assisting Disaster Risk Reduction - the International Meridian Circle Project

The previous Committee had focused on Earthquake which is a major natural disaster that threatens human life and property. They were working on improving the capacity of earthquake prediction that is urgently needed for sustainable development and in turn requires international collaboration as well as technological innovation.

For the next four years, The Institution of Engineers, Malaysia will expand the coverage of this project to include other natural disasters which had occurred in the last century causing damage to properties and loss of lives. Disasters such as landslides, thunderstorms, floods, tornadoes occurred not only in third world/developing countries, it has also caused devastation and social environmental disruption in developed countries.

In addition, the Committee can look into preparedness for other disasters through the building of Societal Resilience to Disasters through the use of utilization of airborne LiDAR data for landslide mapping, airborne laser scanning for forested landslide investigation etc.

2.0 MANDATE OF WFEO-CEIT

The WFEO–CEIT shall support the WFEO and the engineering profession worldwide especially in developing countries by:

(A) PROPAGATION

The Committee will take up propagating the aspects of the technologies by reaching out to the people, especially in developing countries, by conferences or workshops, training courses, video presentations, seminars, distribution of hand bills and bulletins.

(B) INVOLVEMENT

The Committee will call for papers for Engineering Innovation stories from the member states to increase the visibility of WFEO.

The Committee will provide consultants and membership support to compile the work of the 'WFEO World Engineering Index' and the 'Report on Progress of the WFEO Engineering 2030 plan' as well as other related WFEO's events.

3.0 WEBSITE ARRANGEMENTS

Website arrangements will continue following the general arrangements and keep updating the website according to the activities hosted by CEIT and WFEO. According to the WFEO requirement, the CEIT will give full support to WFEO website development.

4.0 COMMITTEE STRUCTURE AND REPRESENTATION

The WFEO Standing Committee on Engineering for Innovative Technologies (CEIT) will be hosted by The Institution of Engineers, Malaysia (IEM) and chaired by Ingenieur Professor Doctor Norlida Buniyamin, who is also the President of The Institution of Engineers, Malaysia. The committee is organized as follows:

A chair is assigned to the committee.

A secretary-general is assigned to the secretariat.

A chair is assigned to each working group related to each focus area.

There are two categories of membership, Full members and Corresponding Members. Full members are appointed by their national engineering associations. Their tasks are to represent their national engineering association and therefore to represent their country. Incumbency of Full members depends only on respective national engineering associations. Recommended terms are two to four years. The appointees are voting members. Corresponding Members are interested in young engineers that are not nominated by their countries. They can contribute to all the activities but have no voting rights. There can be greater than one corresponding member of each country.

5.0 WORK PLAN FOR SECRETARIAT

The Secretariat will work on but not limited to the following:

- To budget annual activities and handle administrative issues.
- To serve current committee members while exploring and recruiting potential committee members.
- To improve internal communication with social networks.

- To provide news and relevant data to WFEO for website updating.
- To communicate with WFEO office in Paris and prepare reports for WFEO headquarters.
- To provide logistic support to CEIT activities.

6.0 COMMUNICATION PLAN

- To strengthen communications with WFEO headquarters, WFEO national and international members and other WFEO STC as well as working/Task groups,
- To inform them about CEIT activities in a timely manner so as to obtain their support on the one hand, and actively support and make contribution to their activities on the other hand.
- To strengthen communications with CEIT members by internet email and mobile applications.
- To strengthen communications with other players and stakeholders, especially relevant engineering organizations in order to promote engineering innovation for sustainable development and to work together with them to achieve the objective of WFEO CEIT.

7.0 THE INSTITUTION OF ENGINEERS MALAYSIA, IEM

- primary function is to promote and advance the science and profession of engineering in any or all of its disciplines and to facilitate the exchange of information and ideas related to engineering.
- IEM aims to be the premier learned engineering society championing the adoption of ethics and professional best practices in all sectors of the industry.
- IEM's mission is to
 - promote sound professional engineering practice in support of the socio-economic development objectives of the nation.
 - service the needs and interests of its members and the public and uphold the social standing image of the engineering profession.
 - contribute towards nation building and shall strive to enhance society's consciousness of science and technology.

Being one of the members of WFEO, IEM supports and creates activities in line with WFEO's key objective that is to advance the United Nations Sustainable Development Goals through engineering.

8.0 NOMINATION OF CHAIR

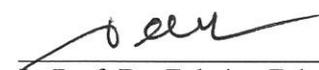
IEM will nominate President Ir. Prof Dr. Norlida Buniyamin as the proposed Chair of the committee. The profile is attached as per Appendix A

9.0 BUDGET

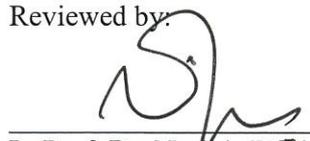
IEM host will be working on the funding support through sponsorship for the secretariat, travel expenses for the Chair and activities arranged by CEIT, including:

Item	Description	Cost
Secretariat Daily Operation	Office expenses	€20,000
Attending WFEO Meetings	Chairman and secretary general travelling Costs	€10,000
Hosting Events	CEIT Work meetings; Academic activities	€10,000
CEIT Website	Maintenance & Renewal Fees, etc.	€5,000
Volunteers Costs	Volunteers Costs	€5,000
Total	€50,000	

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