

WFEO STANDING COMMITTEE ON ENGINEERING FOR  
INNOVATIVE TECHNOLOGY

STRATEGIC PLAN (2018-2019)



Hosted by

**China Association for Science and Technology**

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## WFEO Vision

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WFEO is the internationally recognized and chosen leader of the engineering profession and cooperates with national and other international professional institutions in being the lead profession in developing and applying engineering to constructively resolve international and national issues for the benefit of humanity.

## WFEO Mission

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- 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 enhance the practice of engineering.
- To make information on engineering available to the countries of the world and to facilitate communication between its member nations about the world's best practices in key engineering activities.
- To foster socio-economic security and sustainable development and poverty alleviation among all countries of the world, through the proper application of technology.
- 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 cooperate with Funding Agencies such as development banks.
- To encourage public private partnerships by including the engineering dimension.
- To address the issue of what public policies need to be implemented.

## **WFEO-CEIT Vision**

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

- 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 the innovative technology engineering for facilitating a sustainable world.

## **WFEO-CEIT Mission**

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- To play an active role in tracing technology innovation trend and identifying the new innovative technologies which are essential to sustain the UN's 2030 Sustainable Development Agenda.
- To increase the public recognition of the best engineering practice for the innovative technology to promote the applications of them around the world.
- To foster interactions and collaboration among multi-stakeholders like engineering professionals, governments, financing institutions along with civil societies to build an eco-system for innovative technology engineering.
- To support policy making with professional knowledge so as to make the society benefit from the innovation engineering.

## **Mandate of WFEO–CEIT**

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

### **(A) PROPAGATION**

Society needs awareness of the technological advancement and new findings, that come into existence in various sectors for adoption and effective usage. 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, webinars, distribution of hand bills and bulletins.

### **(B) PROMOTION**

The Committee, in order to promote innovative technology, will provide consultants and mentorship support to young engineers and engineering students carrying out R&D projects with innovative technologies. This is to improve the quality of technical education as well as to support young entrepreneurs with innovations and inventions.

## **Operating Principles**

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The WFEO-CEIT will conduct its business in a transparent, inclusive and consultative manner among its members as well as the other committees and structures within the WFEO by:

- Working with international and local organizers to organize projects and advance progress in focus areas.
- Encouraging collaboration among committee members as well as other standing committees of the WFEO as appropriate.
- Focusing on concrete and measurable deliverables and tracking progress.

- Communicating in an open, forthright and timely manner.
- Reporting to, and liaising with, the WFEO Executive Board and Council.

The WFEO-CEIT 2011-2015 strategic plan to improve the utilization of limited financial and volunteer resources. The plan is a ‘living’ document will be updated accordingly.

The WFEO-Committee on Engineering for Innovative Technologies focuses on recognizing and promoting the worldwide contributions of women engineers and young engineers by quilting and disseminating good practices and to initiate dialogue with governments, international agencies, industries and other stake-holders to promote the objectives of WFEO.

### **Focused Areas**

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Several focused areas are selected as the breakthrough to gain the four-year strategic goal.

#### **(A) Cloud Engineering & Internet Plus**

To leverage innovations from a diverse spectrum of disciplines, from computer science & engineering to business informatics, toward the holistic treatment of key technical and business issues related to cloud computing and internet application in different fields, such as agricultural, civil, manufacture, mining, transportation, medical and communicational engineering, etc.

#### **(B) Big Data**

To promote open and equally access to and proper treatment of data worldwide and narrowing 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.

### **(C) Intelligent Technology and Robot**

To share the vision of the potential of intelligent technology and robot in improving, accelerating, and supporting sustainable development.

To facilitate the adoption of robot and intelligent technology in the traditional fields of engineering for enhancing productivity, quality and achieving sustainable development.

### **(D) Sensor Technology and Internet of Things (IoT)**

To clarify the role of IoT and Sensor Technology in supporting socio-economic sustainable development worldwide, especially in developing countries.

To make recommendations for regional stakeholders and policy makers in promoting a broad ecosystem for Sensor technology and IoT.

### **(E) Smart Devices and Materials**

To promote the adoption of new materials and smart devices technology around the world.

To encourage the innovative activities and collaboration among the member societies.

### **(F) International Meridian Circle Program**

To develop a ground-and-space based space weather monitoring system via the cooperation of countries and regions round the Meridain circle with an aim to aquire unprecedented ability to investigate the space weather and ionospheric precursor mornitoring of cooperation research

earthquake and accumulate observation data to establish the space weather datasets

## Focused SDG

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Investment in infrastructure and innovation are crucial drivers of economic growth and development. With over half the world population now living in cities, mass transport and renewable energy are becoming ever more important, as are the growth of new industries and information and communication technologies.

Technological progress is also key to finding lasting solutions to both economic and environmental challenges, such as providing new jobs and promoting energy efficiency. Promoting sustainable industries, and investing in scientific research and innovation, are all important ways to facilitate sustainable development.

More than 4 billion people still do not have access to the Internet, and 90 percent are from the developing world. Bridging this digital divide is crucial to ensure equal access to information and knowledge, as well as foster innovation and entrepreneurship.



## Work Plan 2018-2019

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To host SDG 9-oriented domestic and international activities on cutting-edge technologies in order to enhance cooperation among national members.

- Identify the latest innovative technology
- Raise the publicity of innovative technologies and their applications among national audience while increasing the social awareness of the significance of the development of innovative technologies
- Explore the potentiality of Intellectual Technologies and Robot being applied to improve the productivity and life quality of human being.
- Encourage innovative activities national wide as well as cooperation internationally.
- Solicit wisdom from top scientists regarding innovative technologies mentioned above and get them classified for the reference of policy makers.
- Call on scientists to conduct research to optimize the way the most innovative technologies could be applied to improve the efficiency of industry, infrastructure and human life.
- Foster international cooperation and communication regarding cutting-edge technologies research and application
- To promote an open and equal access to data worldwide and make data exchange more accessible to all stakeholders.
- Call on scientists at a global level to launch a special program with joint efforts of CDRM, through engaging in space weather forecasting, earthquake monitoring, geophysics to conduct joint study of space weather in terms of regional features in global space weather and

international cooperation in earthquake ionospheric precursors.

### **Committee Structure and Representation**

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The WFEO standing Committee on Engineering for Innovative Technologies (CEIT) is hosted by the Chinese Association of Science and Technology (CAST) and chaired by Professor Jing PENG, who is also the vice chair of China Institute of Water Resource and Hydropower research. The committee is organized as follows:

A chair and a few vice chairs are assigned to the committee.

A secretary-general is assigned to the secretariat.

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

There are two categories of membership, Full members and Corresponding Members. The Full members are appointed by their national engineering associations. Their tasks are to represent their national engineering association and therefore to represent their country. The 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 young engineers who are not nominated by their countries. They can contribute to all the activities, but do not have voting rights. There can be more than one corresponding member from each country.

### Work plan for secretariat

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

- To budget annual activities and treating with 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 to WFEO headquarter.
- To provide logistic support to CEIT activities.

### Website Arrangements and Communication Plan

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The website arrangements will follow the general arrangements, and keep updating the website according to the activities hosted by CEIT and WFEO.

- To strengthen communications with WFEO headquarter, WFEO national and international members and other WFEO STC as well as working/Task groups, inform them about CEIT activities timely in order to obtain their supports 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 to work together in order to promote engineering innovation for sustainable development.

### Four-year Budget

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The Chinese Association of Science and Technology (CAST) as host is providing funding support for the secretariat, travel expenses for the Chair and activities sponsored 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	Servers,Maintenance & Renewal Fees, etc.	5,000
Volunteers Costs	Volunteers Costs	5,000
<b>Total</b>		<b>50,000</b>

Workshops and symposiums to exchange technical ideas, engineering experiences to promote innovative technology for sustainable development.

Training courses or lectures to transfer knowledge of innovative technology for continuing education of engineers.

Finance supporting for other WFEO STCs and international/national members attending CEIT mission relevant activities as appropriate.