



**WFEO STANDING TECHNICAL COMMITTEE ON
ENGINEERING FOR INNOVATIVE TECHNOLOGY**

**WFEO STANDING COMMITTEE ON ENGINEERING FOR
INNOVATIVE TECHNOLOGY (WFEO-CEIT)
STRATEGIC PLAN (2016-2019)**

Hosted by

The China Association for Science and Technology

March, 2016



WFEO STANDING TECHNICAL COMMITTEE ON ENGINEERING FOR INNOVATIVE TECHNOLOGY

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Abstract

Innovative technologies have been recognized as the key driven engine for the sustainable development of the economy and the society worldwide. However, the importance of the engineering for the innovative technologies in launching innovative technologies for the sustainable development has not drawn enough attentions.

As the world leader for developing and applying engineering for the benefit of humanity, in particular in the field of innovative technologies, the Committee on Engineering for Innovative Technologies has set its objectives in the area of technological advancements to identify and promote suitable innovative technologies and the engineering of them for sustainable development, especially in the context of the UN Sustainable Development Goals and the relevant agenda.

Identifying the next innovative technologies for the society is the first step to gain the sustainable development goals. With conferences, workshops, webinars and other approaches, the Committee on Engineering for Innovative Technologies will bring together professionals all over the world to trace the technology innovation trend and identify the new innovative technologies to sustain the 2030 Agenda for Sustainable Development. Then, the Committee will put effort to increase the public recognition of the best engineering practice of the innovative technologies with training courses, publications and forums. In addition, the Committee will enhance the collaboration among multi-stakeholders since it is of great importance in promoting the innovative technology engineering.



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Vision and Mission for WFEO standing Committee on Engineering for Innovative Technologies closely align to the WFEO strategy, as illustrated below:

WFEO Vision

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

- 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 the member countries 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.



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WFEO-CEIT Vision

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

- 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.

WFEO-CEIT Mandate

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



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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 and its engineering, will provide consultants and mentorship support to the engineering community, 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 collaborations among multi-stakeholders.

Operating Principles

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 2016-2019 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 multi-stakeholders to promote the objectives of WFEO.



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Focused Area

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

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.

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.

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.

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.

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.



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Work Plan for 2016

Working groups will be created around the themes in the above focused areas to identify technologies and promote the engineering for the technologies in the above areas. And it would be the highest priority for CEIT in the first year. Invite world renowned experts and create the working groups by the middle of 2016.

Cloud computing and big data have become the most influential innovations in the last decade. IT infrastructure construction has been disruptively reformed by cloud computing and big data. Besides them, robotics would be the top innovation leading the revolution of the engineering and even the whole society. The committee will host workshop for sharing ideas on but not limited to:

- The best practice of cloud computing for IT infrastructure construction;
- The best practice of big data in helping facilitating IT infrastructure construction;
- The challenges of using cloud computing and big data for IT infrastructure;
- The latest progress in the engineering adaption of robotics;
- Professional suggestions on policy making for IT infrastructure construction with the help of cloud computing, big data and the next generation communication system.

Committee Structure and Representation

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 GONG Ke, a standing committee member of CAST. Prof. GONG Ke was the chair the WFEO Standing Committee on Information and Communication (CIC) from 2009-2015. 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



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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

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

- Budgeting annual activities and treating with administrative issues.
- Serving to the committee members and Invite non-committee members to join a committee as a way to add needed expertise in areas, and to recruit potential committee members.
- Improving internal communication with the use of social networks.
- Providing news and relevant data to WFEO for its website.
- Communicating with WFEO office in Paris and prepare reports of to WFEO headquarter.
- Providing logistic support to CEIT activities.

Website Arrangements and Communication Plan

- The website arrangements will continue follow the general arrangements, and keep updating the website according to the activities hosted by CEIT and WFEO.
- Strengthening communications with WFEO head quarter, WFEO national and international members and other WFEO STC as well as working/Task groups, informing 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.
- Strengthening communications with CEIT members by every means, especially by internet such as website, email and mobile applications, eventually developed.
- Strengthening communications with other players and stakeholders, especially relevant engineering organizations to work together to promote engineering innovation for sustainable development.



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Four year Budget

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:

- 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.

The annual budget is about 50,000 Euro and the detailed annual budget is shown as below:

Item	Description	Cost
Secretariat Daily Operation	Office expenses, such as printing of documents, brochures, meeting documents; personnel costs, etc.	20,000
Costs for attending WFEO Meetings	Chairman and secretary general travelling Costs, Accommodation and subsistence costs	10,000
Costs for Hosting Events	CEIT Work meetings; Academic activities such as conferences, tutorials and etc.	10,000
CEIT Website	Servers, Maintenance & Renewal Fees, etc.	5,000
Volunteers Costs	volunteers working on CEIT business	5,000
Total	5,000	

The annual budget will be escalated annual by 5% during the term from 2016-2019. The Four year budget will be about 200,000 Euro. Besides receiving founding from CAST, CEIT has been working with financing agencies to gain financial support from other donors.