# Enhancing Engineer Value Chain in Asia and the Pacific

## Celebrating World Engineering Day for Sustainable Development

## Thursday 4 March 2021, 11:00-12:30 (GMT+7)

### Background

Engineering is essential for economic advancement and the implementation of new technologies and the application of science, including basic needs of food, health, housing, roads and transport, water, energy and management of the planet's resources. The Engineer is a vital profession in addressing basic human needs, alleviating poverty, promoting secured and sustainable development, responding to emergencies, reconstructing infrastructure, bridging the knowledge divide, and promoting intercultural cooperation.

Engineers have played a pivotal role in shaping human civilisation along with the history of mankind. They remain the key driver in solving global issues and achieving common global goals as stipulated in SDG 2030.

For these reasons, and with the support of over 40 Member States and more than 80 engineering organisations, the General Conference of UNESCO, at its 40th session (2019), proclaimed the 4th of March World Engineering Day for Sustainable Development. UNESCO seeks to convey that engineering is one of the keys to sustainable development.

UNESCO Jakarta Office, as the Regional Science Bureau for Asia and the Pacific, works together with AEESEAP (Association for Engineering Education in Southeast Asia and the Pacific) and the Institution of Engineers Indonesia (PII) will organise an online event to celebrate the World Engineering Day for Sustainable Development in the Asia-Pacific region on 4 March 2021.

The event is a follow-up to the meeting held on 3 November 2020 exploring possible collaborations between the three institutions to strengthen engineering value chain in Asia and the Pacific; and the 2020 AEESEAP Workshop "Enhancing Engineer Value Chain" in October 2020 on how the engineering education and professional competence development can further improve global engineer collaboration to support a more sustainable and inclusive economic advancement.

The online event will be the occasion to strengthen the network of relevant partners to trigger further improvements and collaborations in engineering education and professional competence in Asia and the Pacific and also to launch:

1. A UNESCO-AEESEAP-PII joint publication, including the proceedings of the 2020 AEESEAP workshop to identify the regional trends, understanding the state of the engineer value chain (education, professional competence development);
2. Proposal about co-developing a digital platform for Global Collaboration of Engineers in Asia and the Pacific: compiling all multilateral agreements (MRA) among associations/institutions in regions to enhance the engineering visibility and trigger further collaboration (including APEC ER, ACPE).

## Co-Organisers

UNESCO Jakarta, the Regional Science Bureau for Asia and the Pacific, is organising this online celebration in collaboration with AEESEAP (Association for Engineering Education in Southeast Asia and the Pacific established with UNESCO Jakarta Office in 1973) and the Institution of Engineers Indonesia (PII).

## Objectives of the Online Event

It is important to build partnerships between different regional stakeholders in identifying the engineering value chain system and trends, promote engineering education and professional competence across the value chain to support a more sustainable and inclusive economic advancement through global collaboration and open engineering in Asia and the Pacific.

The online event for Asia and the Pacific will be the first regional celebration of the World Engineering Day for Sustainable Development. It will provide a platform to raise awareness of the engineering value chain, increase the engineering sector's visibility and regional collaborations for an accelerated transition to a knowledge-based society or economy and sustainable growth in the Asia-Pacific region.

The specific objectives of this online regional consultation are to:

- bring together the experts, policymakers, and main stakeholders across the Engineering Value Chain in Asia and the Pacific;
- share common understandings of the current engineering education and professional competence development landscape in Asia and the Pacific;
- advance the discussion from Asia and the Pacific perspective on the needs, challenges, and priorities of the engineering value chain to respond to the changing environments, such as the COVID-19 crisis, to achieve SDGs by 2030;
- identify key actions for international collaboration and networking to advance the Global Collaboration of Engineers on a digital platform.

This online event is envisaged to bring together some hundred multi-stakeholder participants. It will be held in English on the Zoom online platform based on the draft structure and draft agenda below.

## Expected Outcome

The stakeholders in Asia and the Pacific will recognise the regional engineering education landscape, taking cognisance of the key challenges and needs in professional competence development for sustainable development with suggestions on how to overcome them, as well as future steps for international collaboration and networking to advance the global platform of engineers. The online event will add to the visibility of the joint publication and the proposal for the regional digital platform.

## Registration: bit.ly/WED2021-AP

## Draft Structure and Programme (90 min)

| Time | Topic |
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| 5 min | **Opening**<br>• Prof Shahbaz Khan, Director and Representative UNESCO Regional Science Bureau for Asia and the Pacific, 2 min<br>• Dr. Ir. Heru Dewanto, President of Association of Engineering Education South East Asia and Pacific (AEESEAP) & President of Persatuan Insinyur Indonesia (PII), 2 min |
| 5 min | **UNESCO/AEESEAP/PII Joint-activities' presentation** by Dr Heru Dewanto<br>• Joint Publication "Enhancing Engineers Value Chain for Global Collaboration in achieving SDGs"<br>• Proposal and inviation for a Global Digital Platform |
| 40 min<br>(5 min *8) | **Panel discussion** (engineering value chain for SDGs/ STEAM and engineering communication/Open Engineering)<br>**Presentations**<br>• "***UNESCO global and regional effort in promoting Engineering services to society***", Prof Shahbaz Khan, Director and Representative UNESCO Regional Science Bureau for Asia and the Pacific<br>• "***Review of International Engineering Benchmarks for Graduate Attributes and Professional Competencies for engineers to successfully advance the UN Sustainable Development Goals***": Dr Marlene Kangan, WFEO former President, Women's Leadership Institute Australia, Australia<br>• "***Mobility for Engineers through APEC Engineer Register & International Professional Engineer Agreement***", Prof. Dr. Chuah Hean Teik, FEIAP former President<br>• "***Open Engineering platform***", Dr. Chang Liu, Director of Division of International Cooperation, IKCEST, China<br>• "***Developing Engineering Accreditation System in Indonesia***", Dr. Leni Sophia, UGM, Indonesia<br>• "***Engineering Education data in AEESEAP countries***", Prof Misri Gozan, Chair of Indonesian Accreditation Board for Engineering Education (IABEE PII)<br>• "***Engineering Education for SDGs***", Prof Malik Adnan, UNESCO Chair on Environmental Management and Infrastructure Development Engineering, Japan<br>• "***STEAM***", Prof. Manolo Mena, University of the Philippines |

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| 30 min<br><br>(15min *2) | **<u>Round table discussion</u>**<br><br>• As UNESCO and AEESEAP proposed, we would like to establish a regional or even global network for certified Engineers to collaborate. What are the challenges and opportunities in the regional collaboration for Engineers? What kind of regional support do we need for collaborations?<br><br>• Engineering is playing a decisive role in supporting member states reaching SDGs. What kind of regional strategies do we need in order to achieve SDG through Engineering, especially SDG 9 and 17? |
| 10 min | **Conclusion and way forward for AP region** (Concluding remarks including main recommendations and next steps)<br><br>• Dr. Ir. Heru Dewanto, President of Association of Engineering Education South East Asia and Pacific (AEESEAP) & President of Persatuan Insinyur Indonesia (PII), 5min<br>• Prof Shahbaz Khan, Director and Representative UNESCO Regional Science Bureau for Asia and the Pacific, 5min |