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Contribution to the Ukrainian Symposium of 30 November 2021

Mr. D. BOCHAR as representative and Secretary General of FEANI (in future “Engineers Europe”), the European Engineering Federation, representing 33 countries from the European Higher Education Area and representing more than 6 million engineers, contributed to the Symposium with a presentation outlining the three major activities the Federation was currently working on.



I. The FEANI Position Paper on the UN SDGs

The 17 goals for sustainable development and their 169 sub-goals are at the heart of the UN Agenda 2030. They focus on three dimensions (the environment, our economy and our society) and on five driving principles (people, planet, prosperity, peace and partnership). All of those aim to ensure the future wellbeing of our planet and of our mankind, by making their developments sustainable.

The European Federation of Engineering Associations (FEANI), as the voice of more than six million engineers in Europe, has identified a major task in contributing to the successful implementation of these SDGs. For this purpose it has developed a Position Paper to amplify the role engineering and technology will play in achieving a more sustainable global economy and future way of life. The main goal of the Position Paper is to instigate a change of mind and a call to action. Technology in general and engineering in particular, will play a crucial part in the successful achievement of many of the 17 SDGs, but FEANI wishes to highlight those where engineers are likely to have most impact. Those relate to SDG 6 - Clean water and sanitation; SDG 7 - Affordable and clean energy; SDG 9 - Industry, innovation, and infrastructure and SDG 11- Sustainable cities and communities.

The Position Paper also identifies and focuses on what engineering associations can do in this endeavour, especially in the light of the lack of awareness and understanding by society of the role of professional engineers and the underrepresentation of engineers in political decision-making bodies. Engineering associations perform several activities in order to assist in the achievement of the sustainability goals : they act as communicators by increasing the general awareness in society of engineering accomplishments, they develop partnerships with universities and industry, sharing best-practices and are drivers in supporting diversity and inclusion in engineering education and the profession more widely. At the same time, engineering associations facilitate the public debate on sustainability by offering seminars and training courses that focus on new technologies and innovation. They help engineers in keeping up to date with new requirements in offering continuous professional development for them, enabling and ensuring competence to act for the public benefit.

By doing so, the European engineering community demonstrates that it takes its responsibility and stands ready to provide expert knowledge to politicians who are concerned with the timely and successful implementation of the SDGs. Engineers – and politicians alike - have a vital role to play in ensuring that future generations can thrive in a society which is sustainable and has learned to live within the boundaries established by ecological limits. Engineers humbly accept this challenge with dedication and commitment.

II. The new EUR ING Certificate 2.0

FEANI, as the main engineers' voice in Europe also focuses on preparing future generations of engineers who will be capable to move freely and are well qualified to address and solve societal challenges. In the light thereof, FEANI is currently working on a revision of the prestigious EUR ING Certificate.

The EUR ING is a certificate issued by FEANI since the late 1980's as a guarantee of international competence for professional engineers. Considering that educational and professional systems differ from one country to another, the idea behind the EUR ING Certificate is to facilitate the movement of practicing engineers within and outside the geographical area represented by FEANI's member countries.

It aims to establish a framework of mutual recognition of qualifications to enable engineers who wish to practice outside their own country to carry with them a guarantee of competence. It provides information about the various formation systems of individual engineers for the benefit of prospective employers, and it encourages the continuous improvement of the quality of engineers by requiring re-assessment after five years. EUR ING certified engineers are stored in the FEANI EUR ING Register. The European Commission has recognized the FEANI Register and the EUR ING Certificate as valuable tools for recognising national diplomas among member states.

In the current revision of the EUR ING, the current qualification criteria are being redefined by putting a paramount emphasis on Lifelong Learning (LLL) and Continuous Professional Development (CPD) to better align with modern times. Also the EUR ING application process will shift from hard copy applications towards e-applications. The new EUR ING Register will be connected to this updated Electronic Application Tool and to the European Engineering Education Database (EEED).

The EUR ING Certificate will be awarded on robust evidence of qualifications (formal education and training), professional experience, and continuous professional development (CPD). Clearly, continuing professional development remains a fundamental part of any engineering career. It ensures that engineers are constantly improving and have up-to-date learning outcomes which will benefit society at large. Continuing Professional Development can be acquired by in-company training courses, lectures, formal, informal, and non-formal post-graduate courses, external training sessions. It can also be obtained through individual studies, via the preparation and presentation of a technical paper in a conference or because of the publication in a journal or book. It can also be obtained through mentoring activities and volunteering work.

CPD is at the core of lifelong learning (LLL) and is a condition for maintaining high engineering professional standards. As CPD supports the employability and mobility of any engineer, it therefore needs to be a requirement for obtaining the EUR ING Certificate. FEANI will therefore award the EUR ING title to any engineer who can provide evidence of formal engineering education (3 to 5 years), in combination with relevant professional experience (2 to 4 years) - as long as the sum thereof is minimum 7 years – added with proof of CPD-engagement.

III. The Engineers for Europe Project (E4E)

FEANI developed a project proposal for EU funding under the ERASMUS+ Programme, the EU's programme to support education, training, youth, and sport in Europe. The project may receive total funding of €1.5 million and will be running for three years, starting mid-2022.

Today an engineer is involved in virtually every product and service that we use or deploy in our daily lives. Engineers are crucial to ensure innovation, to contribute to economic growth and to tackle societal challenges such as health and environment. In the EU, the engineering profession is confronted with structural changes and skills mismatches with increasing gaps in transversal skills, which are so high in demand by employers. It is a challenge to overcome the distance between the world of education and the world of work. The EU, international policy documents and research corroborate those challenges and identify a shortage of “socially driven engineers”, chronically needed to meet EU targets for 2030 and 2050.

The objective of the E4E-project is to better foster innovation and resilience of EU engineers through the acquisition of new competences, including skills, knowledge, attitudes, and leadership, with a focus on digital, green, resilience and entrepreneurship, geared by the new requirements of the world of work. E4E's operational objective is to bridge the gaps between education, training, and industry, while operationalising EU competence frameworks (DigComp, LifeComp, EntreComp) for engineers.

Activities in the project with related outputs, will be:

1. To define and establish an **Engineering Skills Council**, a multistakeholder EU platform for enhanced dialogue and collaboration between representatives of education, training, industry, and employers.
2. To design a monitoring methodology to gauge the dynamics, challenges, and opportunities of the engineering profession, culminating in the yearly **Engineering Skills Strategy**.
3. To develop and deliver the **E4E Curriculum**, an innovative training for transversal competences and skills in the form of micro-credentials.

With 11 Full Partners and 13 Associated Partners, E4E is a robust “Alliance”, representing the whole spectrum of Vocational education and training (VET), Higher Education (HE), and Industry. E4E's aim is to engage at least 700 learners through the delivery of this training; 1.150 practitioners and stakeholders through the E4E Road Show and Events across the EU and a total of 86.750 people through valorisation activities.