



Manifesto 2024

ENGINEERS EUROPE

Fédération Européenne d'Associations Nationales d'Ingénieurs
European Federation of National Engineering Associations
Föderation Europäischer Nationaler Ingenieurverbände

OUR OBJECTIVES

- ENGINEERS EUROPE (previously FEANI) strives for a *single voice* of the engineering profession in Europe and wants to affirm and develop the professional identity of engineers.
- ENGINEERS EUROPE issues and promotes the *EUR ING Certificate*, a document which facilitates the cross-border mobility of engineers and the mutual recognition of engineering qualifications in Europe.
- ENGINEERS EUROPE is Project Leader of the EU funded "*Engineers For Europe*" (E4E) ERASMUS+ Project (2022-2025), which has established a "European Engineering Skills Council" as a multi-stakeholder think-tank.

**Founded in
1951**

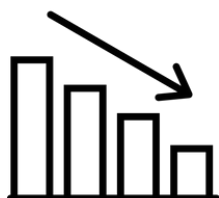
**National
Members in 33
EHEA Countries**



ENGINEERS EUROPE

**± 350 National
Engineering
Associations**

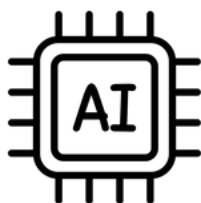
**Representing ±6
million engineers**



Europe is likely to face a critical shortage of engineers for the following years. This poses a significant concern for the **future competitiveness of Europe** in terms of innovative and technical capacities. Companies also face demographic changes with an aging workforce.



The structural problem of **skills mismatches** and the newly evolving and emerging skills, requires a more resilient review process of educational curricula to prepare the next generation of engineers. Systemic and critical thinking are key competencies to support the green and digital transition, next to digital and entrepreneurial skill sets.



The engineering profession is going through a **rapid evolution** with the development of the virtual world and Artificial Intelligence (AI), which causes the disappearance of old concepts and the appearance of new ones. Up-skilling and re-skilling are important elements to maintain future employability.



OUR FINDINGS



Young people can be attracted to the engineering profession by promoting STEM at a very young age and by exposing them to the contributions engineers make to society.



More diverse talent needs to be attracted to the profession from under-represented groups through scholarships, the development of mentorship and diversity/inclusion training to existing professionals.

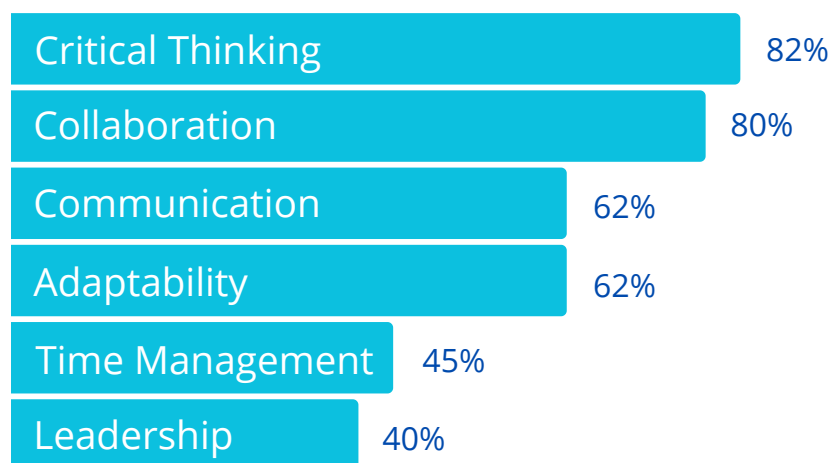


Universities have to find new ways to attract students to technical studies and reach out to Generation Z (born between 1997 and 2012) and Generation Alpha (born between 2010 and 2020). Young people absorb information in a completely different way and also have different expectations about their work and professional life.



It is no longer possible to gather all the required skills and competences for a professional lifetime during university education alone. Lifelong Learning (LLL) and Continuous Professional Development (CPD) help in bridging the gap between required skills and available talent. Engineers are best served with competency-based learning and by an assessment of their learning outcomes.

3045 respondents finding the following skills 'extremely important' in the engineering profession, *Engineers 4 Europe Survey, May - July 2023*



OUR ACTIONS

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We undertake innovative activities and approaches in schools and non-school areas in order to stimulate technical education and enthusiasm for technology. ENGINEERS EUROPE is **a founding member of the EU STEM Coalition**.



Compulsory courses in the formal curriculum for professional engineers remain critically important for maintaining the high level of our European engineers. We have developed a **European Engineering Education Database** with more than 1500 higher education institutions and their engineering programs.

<https://www.engineerseurope.com/eed-database>



Since 1987 we issue the **EUR ING Certificate** which testifies that the holder has reached a required level of professional competence, certified by his or her peers both at national and European level.



ENGINEERS EUROPE

OUR ACTIONS



National Members from 33 EHEA countries meet to **exchange best practices** in Regional Groups and at the National Members' Forum every six months. ENGINEERS EUROPE is also **a founding member of the World Federation of Engineering Organizations (WFEO)**.



We develop **Position Papers** on "The Role of the European Engineering Community with Regard to the UN Sustainability Goals" and in particular on SDG 7, "Affordable and Clean Energy".



Since September 2023, ENGINEERS EUROPE established the "**European Engineering Skills Council**", a think-tank for the engineering profession and a multi-stakeholder exchange platform, consisting of high level academic and business representatives, professional engineering organizations and policy makers.



Based on the EU Commission's Competence Frameworks of DigComp, EntreComp, LifeComp and GreenComp, we develop **Micro-credential courses** in these areas in cooperation with universities and VET-providers.



DG EAC: Short-term learning formats, such as Micro-credentials, enable the flexible and demand-oriented acquisition of competences. Students require more practical and hands-on experience through internships and apprenticeships. **We recommend to adapt the teaching programs of engineering to the new demands of the job market.**



DG EMPL: Fostering closer collaboration between industry and government agencies ensures that policies and regulations are conducive to growth and that industry focuses on the correct priorities. LLL is at the core of our EUR ING Certificate, which includes a re-assessment every five years. **We seek formal acknowledgement by the new EU Commission of our EUR ING Certificate.**



DG GROW: A significant challenge is how engineering learning is organized to be synergized with industry requirements. New jobs emerge and existing occupations undergo significant transformations in content and skills requirements. We recommend to encourage and **support collaboration between engineering professionals, academia, industry representatives and policy makers** through the European Engineering Skills Council, ENGINEERS EUROPE's recently established knowledge-sharing platform.



ENGINEERS EUROPE Central Secretariat AISBL
c/o REGUS EU Commission
Schuman Square 6
5th floor
BE - 1040 Brussels



www.engineerseurope.com
www.engineers4europe.eu



+ 32 2 234 78 78



secretariat.general@engineerseurope.com



Engineers4Europe (E4E)



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