

To the attention of the Nordic Ministers responsible for Education, including Higher Education
Copy: Karen Ellemann, Secretary General of the Nordic Council of Ministers

Prioritising STEM competencies for securing competitive autonomy in the region and beyond

The EU has ambitious goals of being climate neutral by 2050 and of advancing the green and digital transitions. Similarly, the Nordic Region's Vision 2030 aims to establish itself as the most sustainable and integrated region globally. To realize these ambitions, there is an immediate demand for STEM competencies that remains unmet.

Representing 500,000+ STEM professionals, the Association of Nordic Engineers, ANE¹, urges Ministers' attention to key priorities:

1. Establishing a Nordic Green Transition Assessment Forum

Nordic businesses, unions, universities, and governments have long predicted a critical shortage of STEM professionals. To position the Nordic region as a leader in net-zero technology, it's time to address this shortage. We propose establishing a Nordic Green Transition Assessment Forum, tasked with identifying specific STEM competencies vital for enhancing the Nordic economy's competitiveness. This Forum will assess skills demand in green technology sectors, align political strategies, and direct investments to bridge current deficiencies. The Forum will engage with relevant stakeholders from the industry, academia, and social partners in the assessment process.

We call on this proposal, already voiced to Karen Ellemann, the Secretary General of the Nordic Council of Ministers in May this year² and included in the NordicCiv³ recommendations for the Nordic cooperation programme 2025-2030, to be prioritised and implemented by the Swedish Presidency in the Nordic Council of Ministers in 2024.

2. Investing in Engineering Education for Sustainability

The education system requires a substantial upgrade to secure the provision of specialists matching the skills demand. Primary and secondary school is the foundation of higher engineering education, and therefore, we encourage Ministers to invest in improving and strengthening STEM education in schools at an early age. Engineering and STEM should become an integral part of the curriculum to increase motivation in STEM subjects. Concrete examples, such as specific methods and initiatives, including engineering didactics for primary and secondary schools⁴, could serve as a "copy-paste" inspiration. The investment should also be directed toward national-wide awareness campaigns and tailored events to stimulate interest in STEM education.

While we express our appreciation to the Swedish Government for including an engineering initiative with a total amount of 362 million SEK in the budget 2024, we invite Ministers in other Nordic countries to follow this example and include dedicated financing for engineering education in the budget proposals.

¹ ANE is the regional cooperation organisation for five trade unions representing more than 500,000 engineers and other STEM professionals in the Nordic Region. Members of ANE are IDA in Denmark, NITO in Norway, Sveriges Ingenjörer in Sweden, VFÍ in Iceland and TEK, Insinööriliitto, DIFF, TFIF as Engineers Finland. For more information: nordicengineers.org

² ane-recomendations-meeting-with-k.-ellemann-nordic-council-of-ministers.pdf (nordicengineers.org)

³ Nordic-civ-Forslag-till-samarbetsprogrammen-2025-2030.pdf (norden.se)

⁴ Engineer the Future - Danmarks teknologiske alliance – www.engineerthefuture.dk

3. Advancing the EU STEM Strategy for Enhanced STEM Talent Development

Although the content and financing of education and training fall under the competence of the Member States, the EU has a vital coordination and advisory role in setting targets, creating indicators, financing innovative approaches etc. A unified European approach is crucial to ensuring an adequate supply of skilled STEM graduates. We urge the Danish Government to lead discussions with the European Commission to introduce an EU STEM strategy during the Danish Presidency of the European Union in the first half of 2025. This strategy should:

- Include concrete benchmarking of the implementation of all STEM initiatives earlier proposed by the EU Commission⁵ to identify current bottlenecks and the current mismatch between the provision of STEM skills throughout the whole educational chain and the demand for STEM competencies by the industry sector.
- Advise Member States on how to improve and strengthen STEM education in primary and secondary schools while promoting the uptake of STEM studies in universities and propose concrete plans for upskilling.⁶
- Foster the exchange of best practices on how to attract and retain girls and women as well as international talent⁷ in STEM fields.
- Align with the EU Recommendation on critical technology areas for the EU's economic security⁸ and propose clear investment avenues to acquire STEM skills.

If we want to succeed in the twin transition by developing and implementing new climate technology, we must have an education system which can deliver engineers, IT, and STEM professionals with the right skills at the right time.

We also encourage Ministers to actively involve STEM professionals in the decision-making process, as their expertise can greatly contribute to informed decisions addressing pressing societal challenges.

Copenhagen, 17th of November 2023

On behalf of the:

Norwegian
Association of
Engineers and
Technologists, NITO

Swedish Association
of Graduate
Engineers, Sveriges
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Danish Society of
Engineers, IDA

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⁵ The 2020 European Skills Agenda for sustainable competitiveness, social fairness and resilience, the 2020 European Commission's communication on a European Education Area by 2025 and the 2020 European Commission's communication on a Digital Education Action Plan 2021 - 2027.

⁶ Read [our statement](#) sent to Nordic Ministers in charge of Lifelong Learning

⁷ The EU Commission 2023-communication "A Green Deal Industrial Plan for the net-zero age".

⁸ [C 2023 6689 1 EN annexe acte autonome part1 v9.pdf \(europa.eu\)](#)