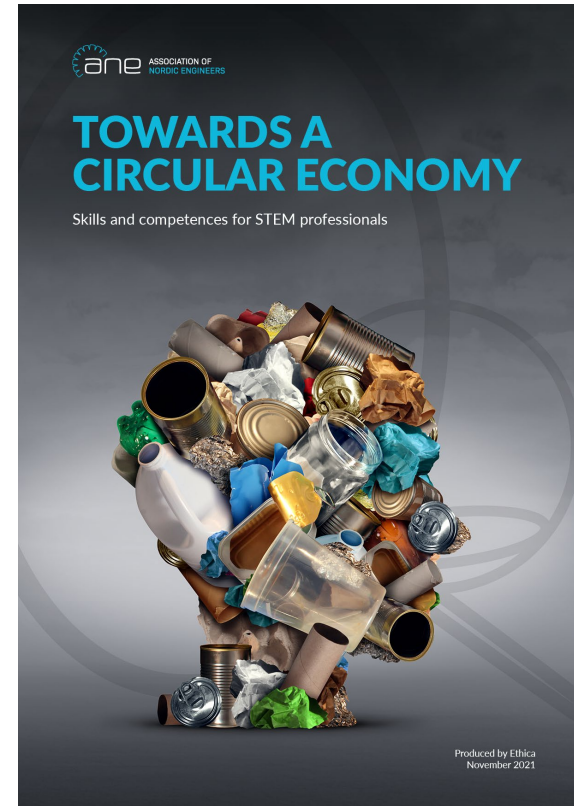




ASSOCIATION OF
NORDIC ENGINEERS



Kristoffer Boesen, Communications & Network Manager
Iceland, 9th of June 2022 - [#ListenToEngineers](#)



Established in May 2007, the **ANE** is a regional cooperation platform for **Nordic** trade unions representing engineering and STEM professionals

Our member organisations:

IDA, NITO, Sveriges Ingenjörer, VFÍ, and Engineers Finland

Together, we represent the interests of more than 500.000 engineers & STEM professionals in the Nordic region

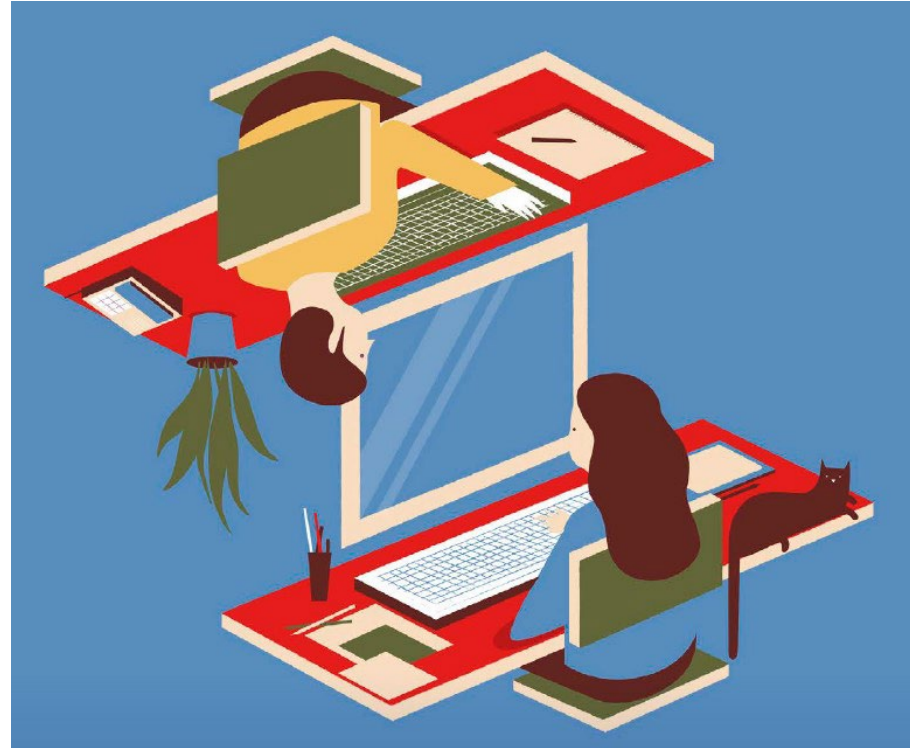
Core activities

- Knowledge sharing & co-creation
- Policy influencing
- Cooperation & networking

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Sustainable Limitless Work

- Opportunities, Challenges and Future Scenarios

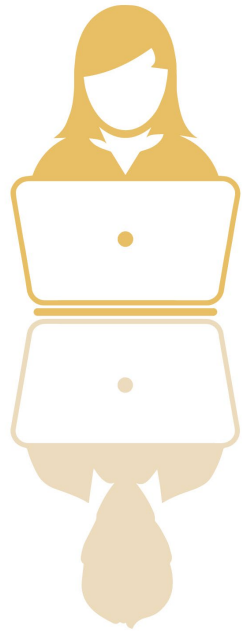


Limitless work – what is that?

- Removed limits of time and place
- Digitalization
- Globalization
- The “24/7 society”



Limitless work = opportunities



- Work wherever and whenever you want
- More influence over work process
- Higher efficiency
- Improved work-life balance

- Climate
- Gender equality

Limitless work = challenges

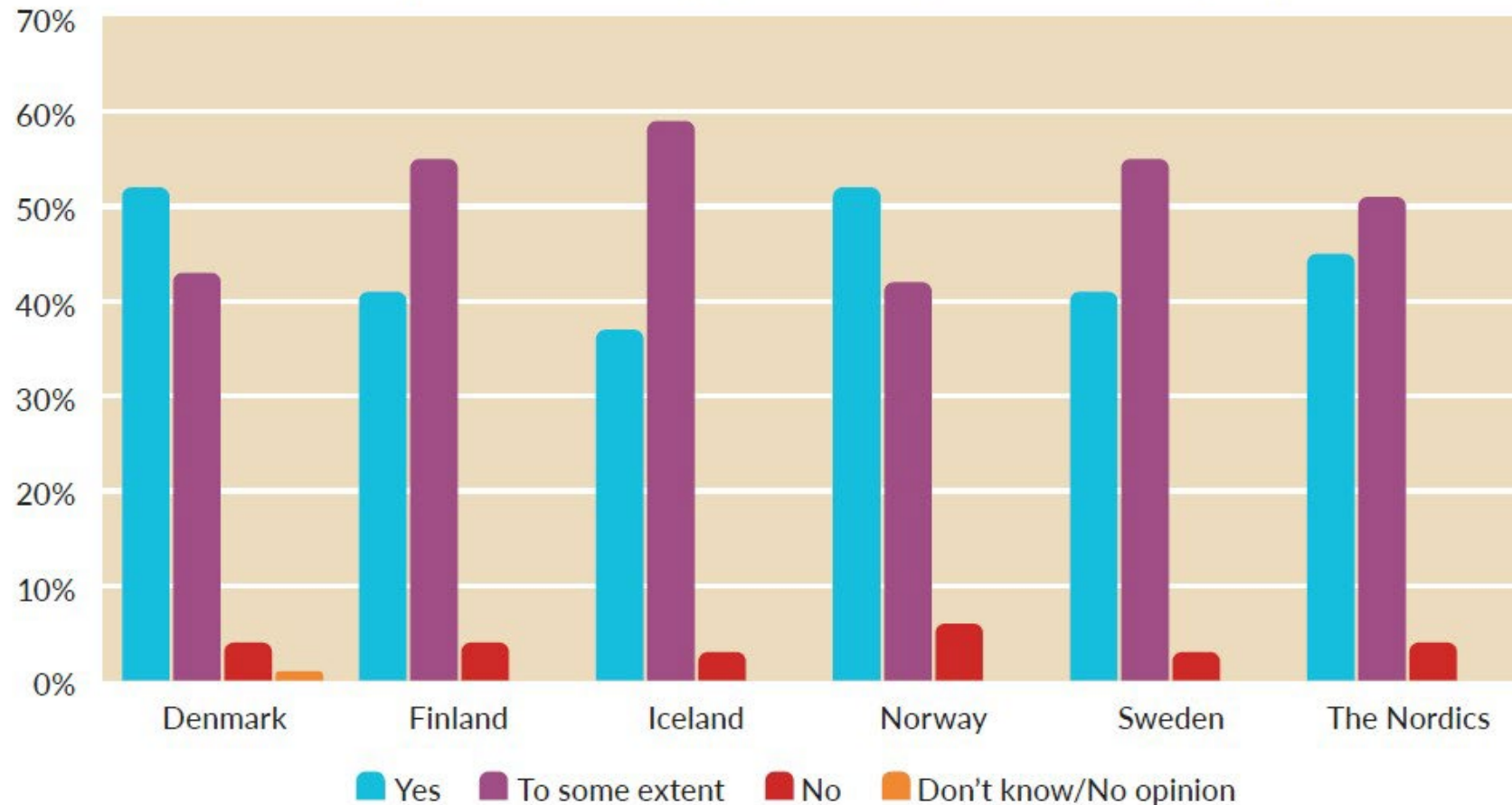
- Connectivity
- Working hours, breaks & recuperation
- Boundary-setting responsibility
- Young & newly-hired employees
- Creativity & social stimulus
- Mental health
- Work management & work environment

- Climate
- Gender equality



Survey of Nordic Engineers

DIAGRAM 1: Are you able to arrange your working hours according to your needs?

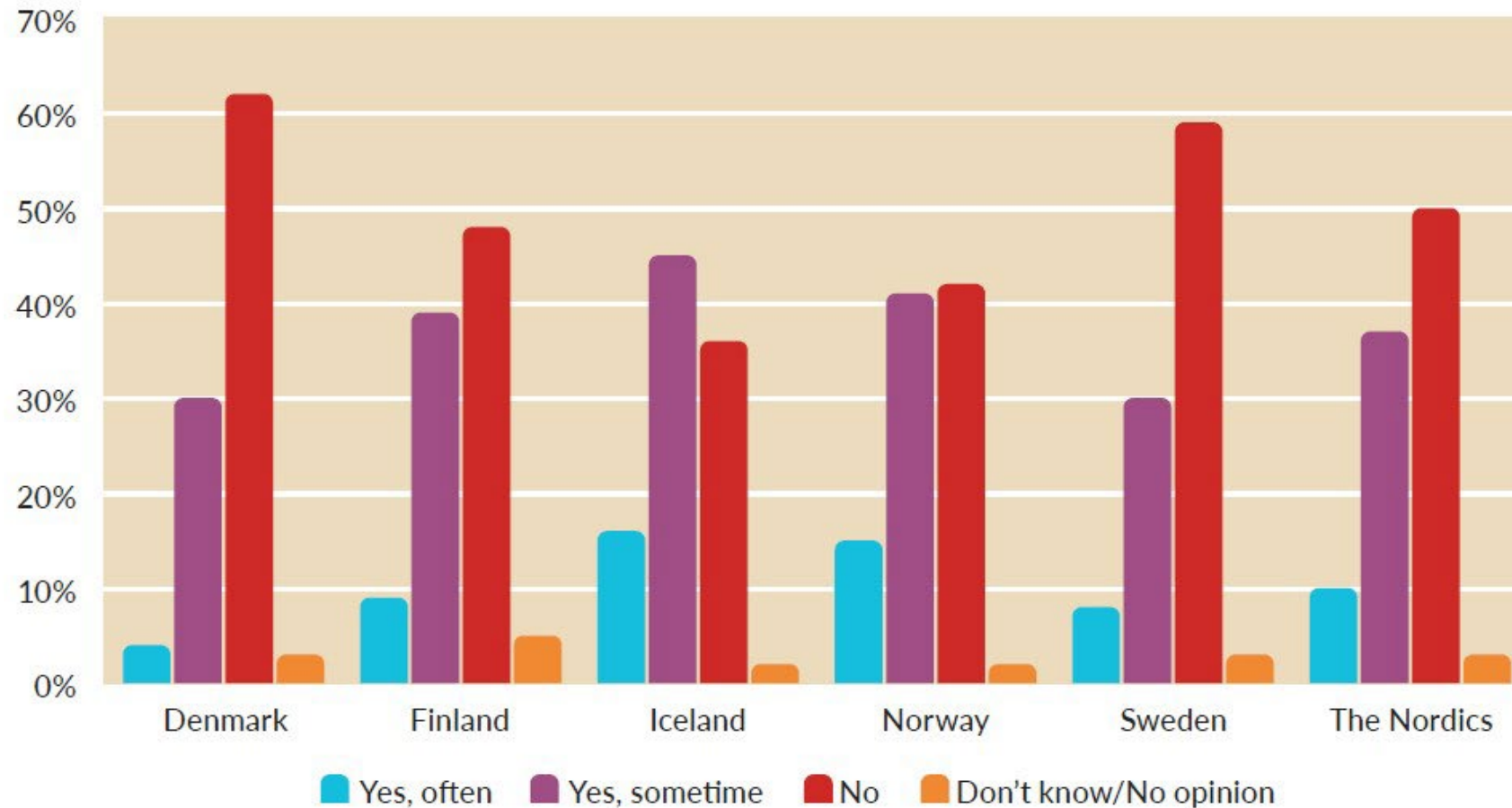


Some results

- More efficient
- Creates better balance in life (to some extent)
- Less socially stimulating
- Expectations on connectivity – without guidelines

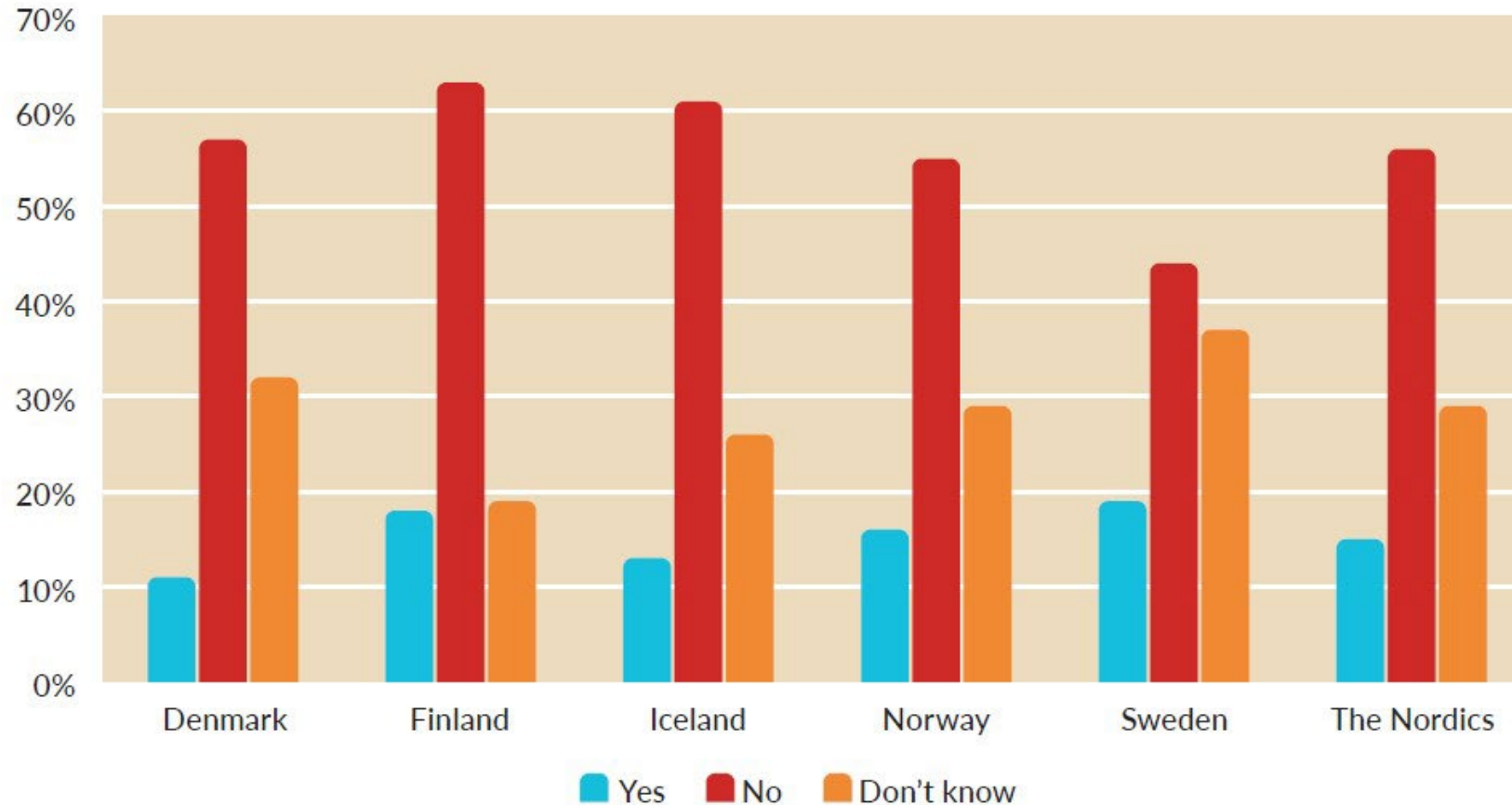
Survey of Nordic Engineers

DIAGRAM 4: Does your employer expect you to be accessible in your free time?



Survey of Nordic Engineers

DIAGRAM 5: Are there guidelines at your workplace regarding how available you are expected to be?

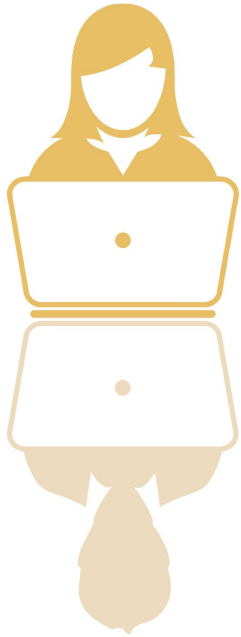


Recommendations: Managers

1. Trust-based leadership
2. Be flexible
3. Active dialogue with staff



Recommendations: Employers



1. Flexibility based on voluntariness
2. Retain responsibilities
3. Establish & communicate clear guidelines

Recommendations: Engineers

1. Implement EU framework agreement based on voluntariness
2. Hold the employer accountable
3. Regulate boundaries & low-intensity tasks in agreements



Future scenarios?

1. Work with limits?
2. Work without limits?
3. Sustainable Limitless Living



Towards a Circular Economy

- Skills and Competences for STEM professionals



Background

Policy guidelines:

- The EU is paving the way
- The Nordics have plans on Circular Economy, but lack concrete actions on competences

A Circular Economy can be achieved by

- Eliminating waste and pollution through the superior design of materials, products and systems
- Keeping products and materials in use with new business models
- Focusing on the regeneration of natural systems

TOWARDS A CIRCULAR ECONOMY

Skills and competences for STEM professionals



The world is finite and has a finite carrying capacity. It is crucial to understand how natural systems work and what the planetary boundaries are.

I don't think we emphasise these enough yet in any level of education.

Elin Larsson, Program manager, RISE

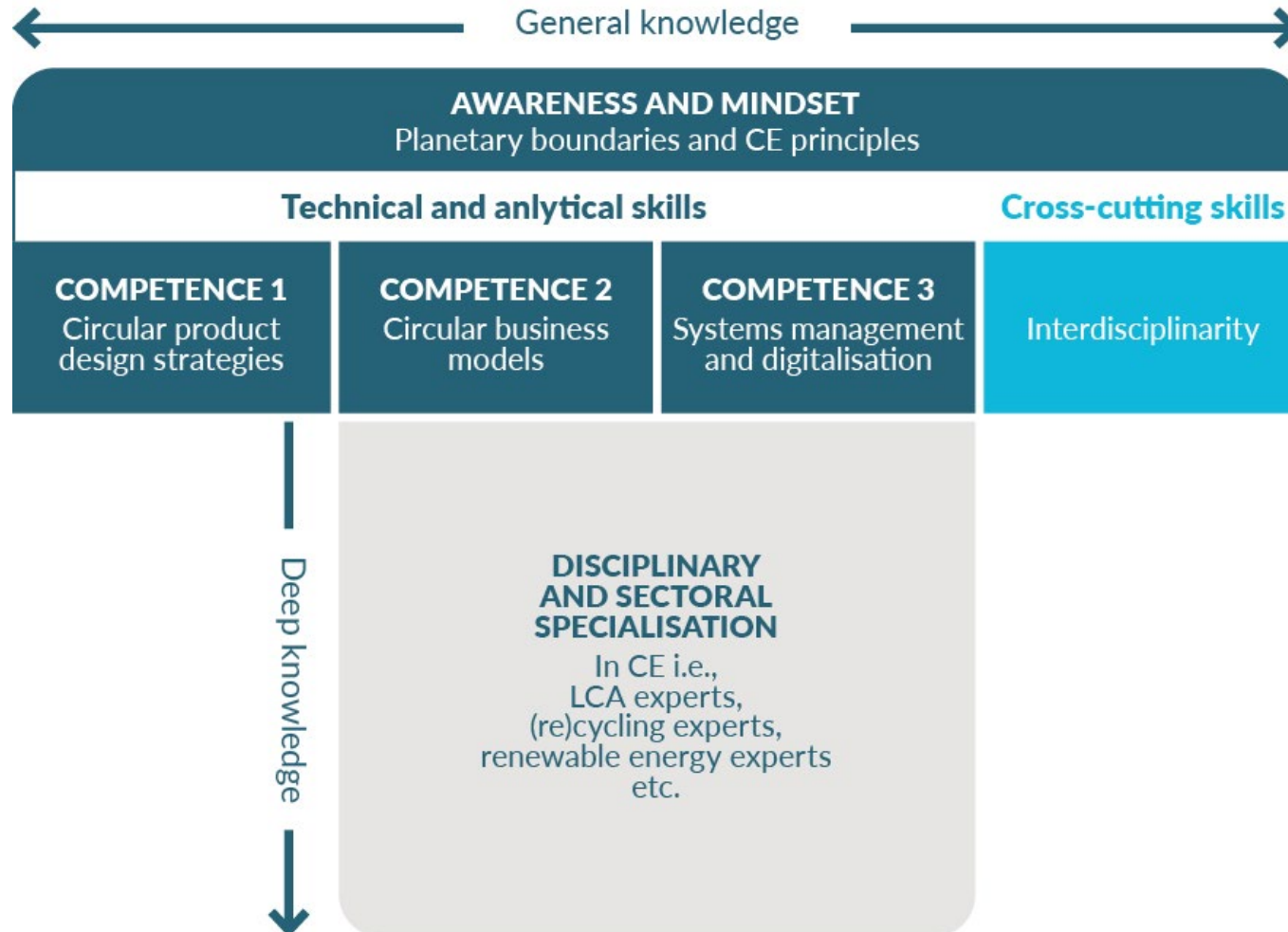
The STEM professionals and engineers have a strong T-shape knowledge profile. That is deep expertise in a single field combined with general knowledge and abilities across disciplines.

Sustainability and circular economy should be incorporated more strongly in the horizontal line together with basic competence related to digitalisation and other future cross-cutting skills.

Leena Pöntynen

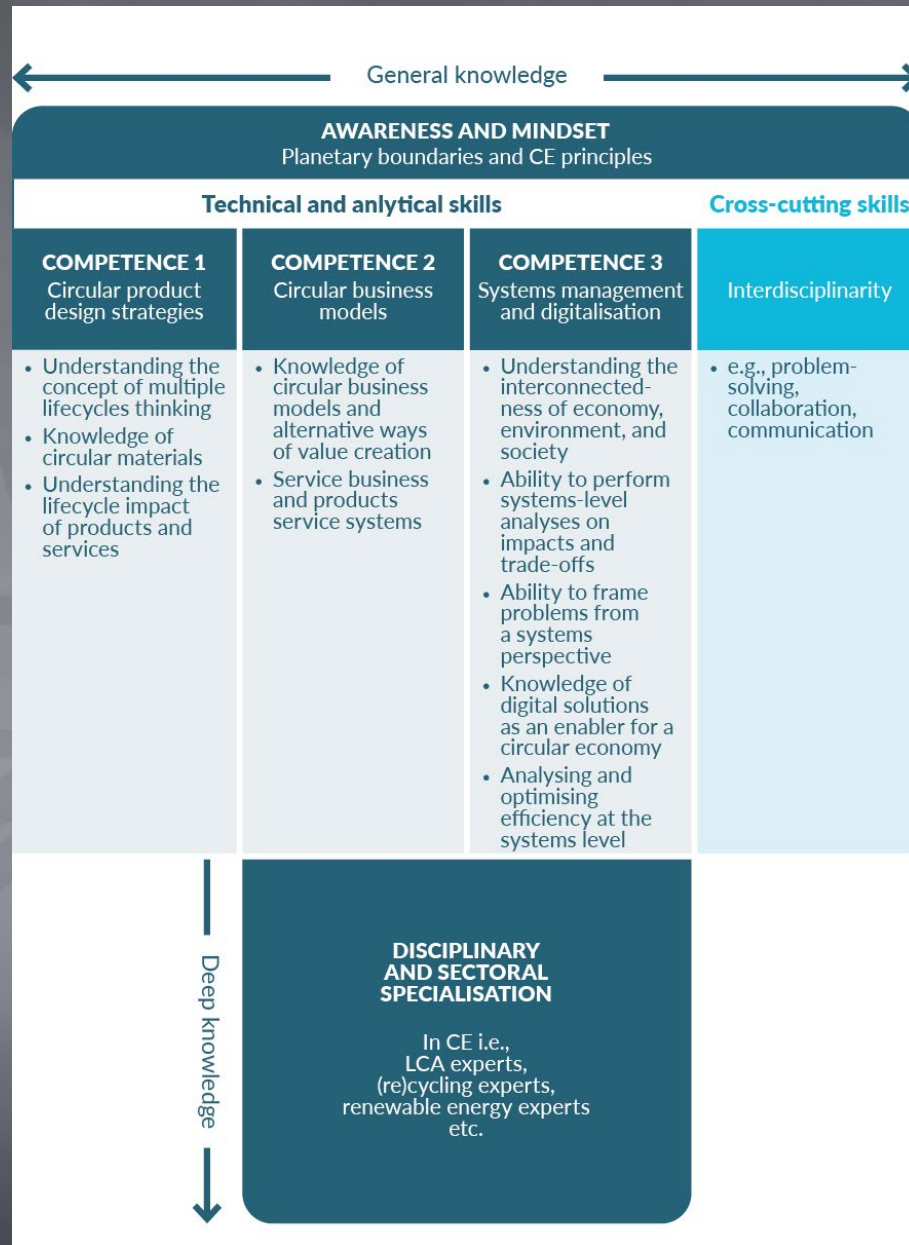
-Director, Skills and Competence, Technology Industries of Finland

The Circular Economy (CEC) Framework



The circular competences

- Awareness & mindset as a foundation
e.g. Planetary Boundaries and CE principles
- Circular product design
- Circular Business Models
- Systems Management & Digitalisation
- Disciplinary & Sectoral specialisation



A snapshot analysis of 5 Nordic Universities & 6 bachelor-level programs

- Biggest gap between the programs and the CEC framework was related to the Circular Business Models competence area.
- It suggests that political ambitions to become circular societies in the Nordic Countries is not yet demonstrated in the basic engineering studies

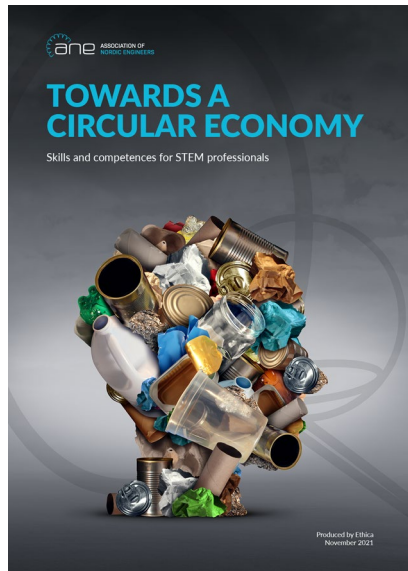
Recommendations

- For policy-makers in the Nordics and EU
 - Stronger focus on competences
 - Research on demand for green transition skills
 - Focused funding for higher education
 - Broaden current strategies
- For employers
 - Create spaces & agile partnerships for CE upskilling
 - Promote STEM professionals as leaders

For the educational institutions



- Establish a universal Circular Economy Competency framework for all engineers & STEM professionals
- Integrate the Circular Economy Competency framework in all degree programmes and as learning goals of courses
- Educate the educators



Thank you for your attention!

Find the reports here:

nordicengineers.org

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