

Digital transformation can improve gender equality in the bioeconomy, but it will not happen automatically

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The bioeconomy, which includes forestry and agriculture,¹ is a profoundly gender-segregated sector of the economy. Indeed, only about 14% and 29% of the EU workforce for forestry and agriculture, respectively, are women.² Improving the gender balance in the bioeconomy is vital for several reasons, not least because inclusion and diversity are key factors in driving innovation, and missing out on half of the potential workforce impedes the competitiveness of the sector. There is a shift in the skills required within the sector as a whole, and digital technology is increasingly being adopted at several levels. Companies are now looking for AI and data scientists and experts within digital technology, which creates an opportunity to attract more women to the sector.

Analysys Mason recently conducted a study on behalf of three bodies within the Nordic Council of Ministers to assess the gender imbalance in the bioeconomy. In theory, digitalisation and the increased automation of heavy work could improve the gender balance, but this is not happening in practice. Instead, digitalisation seems to be aggravating the prevailing situation because the ICT sector is also currently heavily male-dominated. The Nordics is often considered to be one of the most gender-balanced regions in the world, yet still approximately 75% of graduates from ICT-related university programmes are men.³ In this article, we use our research findings to provide six recommendations of how to create a more gender-equal digital bioeconomy.

Digital transformation could solidify the current gender imbalance in the workforce

The stereotypical image of a forester or farmer is a strong man that is ready to take on hard work in the forest or on the field. However, much of the physical work is now automated, thereby removing the requirement of physical strength. In theory, this could reduce the gender bias and encourage more women to join the workforce. However, this is not happening, largely because workers that have the new, non-physical skills required as a result of digitalisation come from a (currently) equally heavily male-dominated environment. Hence, we risk worsening an already skewed gender balance by moving towards a more digital bioeconomy.

Gender equality promotes innovation and competition

There is a risk that the digital transformation of the Nordic bioeconomy will worsen the gender balance in the sector, and one may wonder why we should spend resources to try to avoid this possibility. There are at least

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- ¹ For more information, see Analysys Mason's [The digitalisation of the bioeconomy will provide opportunities for operators and ICT providers](#).
 - ² Eurostat (2020), Agriculture, forestry and fishery statistics — 2020 edition. Available at: <https://ec.europa.eu/eurostat/web/products-statistical-books/-/ks-fk-20-001>.
 - ³ Nordic Statistics (2020), *EDUC09: Graduated students at tertiary level aged 15-74 by reporting country, field of education, sex and time*. Available at: https://pxweb.nordicstatistics.org/pxweb/en/Nordic%20Statistics/Nordic%20Statistics__Education__Education%20and%20training/EDUC09.px/.

two arguments for gender equality that are highly relevant for players in both the bioeconomy and the ICT sector. Diversity provides additional perspectives and this stimulates a higher degree of innovation thereby enabling smart and sustainable economic growth. Furthermore, attracting more women to these sectors means that companies have access to a wider pool of potential employees. They cannot afford to miss out on half of the potential workforce if they are to stay competitive.

It is vital that women are involved and considered at all stages of the knowledge chain if we are to reduce the gender inequality in these sectors. This includes ICT-related education and university degrees, the development and implementation of tomorrow's digital technology and strategic decision making that impacts the digital transformation of the sectors.

Both industry and academia need to act to drive effective and sustainable change

We can draw two major conclusions from analysing the latest research on the intersection of gender and digitalisation. Firstly, the shift in the skills required caused by digital transformation creates an opportunity to change the current situation and push for a more diversified workforce. Secondly, we need stronger and more visible female leaders, mentors and networks in order to attract more women to the sectors. We therefore suggest three action points for industry players. They should:

- increase the number of female role models in their organisations
- establish mentorship programmes that support young professionals
- create networks for young professionals and students.

We also suggest that academic bodies:

- promote further research on the intersection of digitalisation and gender, and how it affects different sectors
- seek a better gender balance when recruiting students to bioeconomy- and ICT-related courses
- develop and implement tools and methods to facilitate an active discussion within academia.

Regardless of the action, research shows that it is vital to carefully consider the purpose and structure of women-only activities and to actively include men when working with gender issues. A joint effort is the only way to drive efficient and sustainable change. For further details, please contact [Maria Tunberg](#).