

VISION 2023: Nordic Testbed Network

Co-creating solutions for the digital bioeconomy

The network members aim to co-create solutions supporting the digital transformation in the Nordic bioeconomy. By doing so, the network will increase the general awareness of the role of testbeds and digitalisation in the development of the Nordic bioeconomy and facilitate knowledge and technology transfer between the Nordic countries.

Defining core concepts



Bioeconomy refers to the biomass-based part of the total economy. It is often associated with concepts like green economy and circular economy. In the Nordic Testbed Network, it is defined as agriculture, forestry, fisheries and aquaculture and focus lies on primary production.



Digitalisation is a process of comprehensive social changes (e.g. new business models and infrastructure solutions). Digitisation is one component of digitalisation and refers to the conversion of information from analogue to digital format.



Testbeds are physical or virtual environments where businesses, academia and other organisations can interact in the development, testing and introduction of new products, services, processes or organisational solutions in selected areas. A well-designed testbed has effectively integrated both "hardware" (equipment, physical facilities etc.) and "software" (competence, organisation, service offerings etc.).

To enable this vision, the network members will start off by learning from each other.

Milestone 1 for 2021: Increased knowledge sharing between Nordic testbeds active in the intersection between digitalisation and bioeconomy

During 2021 the network will facilitate a learning process between Nordic testbeds in the intersection between digitalisation and bioeconomy. Areas for learning include both generic issues related to the management of a testbed and specific subject areas to explore.

Areas to explore

Exampels:

- **Data management** – how can we approach issues related to data access, reliability, and security?
- **Education, including both students and workforce** – how do we disseminate new solutions and ensure the capabilities necessary to use them?
- **Commercialisation** – how do we advance solutions from prototype to commercial stage?
- **Organising a testbed** – what alternatives for financing are there, and how can we work with different types of partnerships?

Milestone 2 for 2021: Expanding the network to include the blue bioeconomy

In 2019–2020 the Nordic Testbed Network has included testbeds from forestry and agriculture. In 2021, the network will be expanded to also include the blue bioeconomy, comprising fisheries and aquaculture.

Structure enabling the 2021 milestones

- **TWO WEBINARS** focusing on themes relevant for network members, including inspirational talks as well as joint discussions.
- **A QUARTERLY NEWSLETTER** highlighting relevant topics and keeping members updated on what is happening across the network.
- **A MAPPING OF TESTBEDS** from the blue bioeconomy, inviting additional testbeds to the network.

Network benefits – why joining?

Network members get:

- Easy access to Nordic testbeds in the intersection between digitalisation and bioeconomy
- Contact with stakeholders engaged in developing the Nordic digital bioeconomy
- Updates on relevant initiatives inside and outside of the Nordic region
- Invitation to network activities such as study visits and webinars

Joining the network is free of any charge.

Network members – who can join?

The Nordic Testbed Network is open to anyone willing and able to contribute to the vision of the network. The core of the network is composed by **testbeds engaged in digitalising the Nordic bioeconomy**. The network is specifically targeted towards:

- Testbeds where academia, businesses, and public organizations can interact
- Testbeds devoted to research, development, and commercialisation of products and services
- Testbeds encompassing forestry, agriculture, fisheries or aquaculture

Network members include:

Smart Farming Centre <ul style="list-style-type: none">• eng.au.dk/forskning/forskningsprogrammer-og-centre/au-agricultural-technology-program/smart-farming/smartfarming/	Digitaliserat jordbruk <ul style="list-style-type: none">• www.testbedsweden.se/test-demo/digitaliserat-jordbruk	Auto 2 <ul style="list-style-type: none">• www.skogforsk.se/nyheter/2018/nytt-projekt-ska-utveckla-sjalvstyrande-skogsmaskiner	Ouluzone+ <ul style="list-style-type: none">• www.ouluzoneplus.com
Swedish Drone Centre <ul style="list-style-type: none">• www.dronecentersweden.se	Mistra Digital Forest <ul style="list-style-type: none">• www.mistradigitalforest.se	FITPIG – pigs on internet <ul style="list-style-type: none">• www.iof2020.eu/trials/meat/interoperable-pig-tracking	Odlande stadsbasarer/Alovivum <ul style="list-style-type: none">• https://odlandestadsbasarer.se/alovivum-2/
Agro- og Planteknologi <ul style="list-style-type: none">• www.teknologisk.dk/ydelsler/agro-og-planteknologi/36802	Senter for presisjonsjordbruk <ul style="list-style-type: none">• www.nibio.no/om-nibio/senter-for-presisjonsjordbruk	Gigacow <ul style="list-style-type: none">• www.slu.se/institutioner/husdjursgenetik/forskning/gigacow/	

Background of the initiative

Digitalisation plays a vital role in the rapid development of the Nordic bioeconomy. Access to cutting edge platforms for development, so-called testbeds, where new digital knowledge and technology can be developed is fundamental. To meet this need, and to support the digital transformation of the Nordic bioeconomy, the Nordic Testbed Network was initiated.

The Nordic Testbed Network is managed by Nordic Forest Research (SNS), Nordic Agri Research (NKJ), and the Nordic Council of Ministers' working group on fisheries and is aligned with initiatives such as the North Digital Declaration and the Nordic Bioeconomy Program. It is based on the

initiative 'Digitalisation in the Nordic bioeconomy' undertaken by SNS and NKJ during 2018, which highlighted testbeds as an important part of strengthening the Nordic bioeconomy's profitability and competitiveness.

Nordic added value

The Nordic countries are at the forefront of both the digital transformation and in developing the bioeconomy. As a result of the joint Nordic interest in a digital bioeconomy, there are multiple testbeds all over the Nordic countries aiming to push this development. High-performing testbeds do however require extensive resources, and testbeds are specialised on specific topics. By creating a Nordic network of testbeds, we facilitate the exchange of knowledge and technology transfer in the Nordic region. In this way, more people have easier access, and possibility to contribute, to the development of testbeds that suits them, no matter where in the Nordic region they are located. This is resource optimisation in practice.

