



Report from Baltic Sea Region Bioeconomy Council and Regional Business meeting, 11 June 2018

On 11 June 2018 the BSR Bioeconomy Council met for in Copenhagen.

The **first part of the meeting** was dedicated a discussion among core member of the Council on issues related to the role and future work of the Council 2018-20; inclusion of new Council members; and Technical Assistance from the European Union Strategy for the Baltic Sea Region (EUSBSR) in support of policy learning and cooperation in the Council.

As regards the role and future work of the Council 2018-20, the Nordic Council of Ministers informed the members on a change in work mode of Policy Area Bioeconomy. Rather than as until now working towards realizing the objectives of EUSBSR Policy Area Bioeconomy through Flagship Projects, in the future PA Bioeconomy will work though a small number of Flagship *Processes*, each of these containing a number of projects. The objective with this new approach is to enable PA Bioeconomy to support a smaller number of strategic cooperation areas more vigorously than what is the case today “where the butter is often spread too thinly” on projects with quite different objectives and activities.

Also, the Nordic Council of Ministers as Policy Area Coordinator for PA Bioeconomy will make efforts to facilitate that the Council will take on a more influential role in the strategic management of PA Bioeconomy. It is envisaged that the composition of the Steering Group of PA Bioeconomy will remain unchanged but with its tasks in the future more focused administrative management and then with the Council and its member assuming more responsibility for the context management and policy development of PA Bioeconomy.

A more detailed proposal outlining these changes in policy focus and management will be presented at the next meeting of the BSR Bioeconomy Council tentatively scheduled for the beginning of 2019. The new mode of cooperation will include also an enlargement of the members of the Council, including in the future with more representatives from the business sector and civil society.

Policy learning activities of the Council will also in the coming two years be supported with technical assistance funding from the European Union – and similarly as currently with financial contributions coming from the Interreg Baltic Sea Region Programme.

The **second part of the meeting** was dedicated a dialogue under the theme of “Consumer driven digitalization and technology in the Bioeconomy”. The objective with this part of the meeting was to exchange experiences on policy efforts at transnational, national and regional level aiming to accelerate the digital bioeconomy – and for Council members to learn from a number of business cases presentation showcasing how digitization offers new opportunities for growing jobs and incomes in the bioeconomy and society at large. Below follows the key messages from the dialogue session:

The business opportunities in the digital bioeconomy

- To help set the stage and inspire three companies presented how they have developed business models that are based on digital solutions in the bioeconomy. **Fresh.Land** uses a digital platform to work directly with suppliers – thereby bypassing middlemen – to offer fresh fruits and vegetables directly from farm to consumers. By shortening the value chain the time from farm to consumers is shortened from a few months to less than a week. This means that fruit and vegetables can be harvested when actually ripe, thereby improving the taste quality and rendering many types of chemical conservation of the produce unnecessary, while bypassing middlemen provides better prices for the farmers. Fresh.Land creates its revenue from fees on the ecommerce platform. Skipping the artificial ripening processes and additional transportation between warehouses in the conventional fruit and vegetable value chain furthermore leads to significant reductions in carbon emission.
- **RePack’s** business model is based on recycling of packaging for online trading, currently mostly clothing and jewelry online trading. Rather than one-time-use packaging – that produce much paper and plastic waste – RePack’s yellow durable bags are returned by customers by them simply folding the bag and put it in a letterbox in the street. From here the bags are returned to RePack and after inspection ready for a new cycle of online delivery from shops to customers. RePack creates its revenues on charging a small additional amount for sustainable packaging at checkout in the eshops. A number of added benefits have emerged in the early stages e.g. that the RePack packaging system has proved able to increase customer loyalty, thereby creating further incentives for the eshops to offer this service.
- **Adigo** has also taken advantage of digital technologies in their business. Adigo’s product “Astirix” is a self-driving machine for precision farming, more specifically for targeted herbicide delivery in agriculture. By applying the herbicides with a sensor-based technology only on unwanted weeds the farmers make financial savings on the consumption of the

herbicides and the environment benefits from significantly less application of toxic substances in agriculture.

- Environmental responsibility at the customers' end is an important driver for business cases like the above. However, it was stressed that the cost savings on the side of producers and consumers – or them being able to maintain costs and pricing while adding environmental sustainability benefits to the product – continue to be the single most important single factor for product substitution by producers and consumers.
- It was largely agreed that there is currently too little awareness of digital bioeconomy business models such as those from Fresh.Land, RePack and Adigo among policy makers – and that it would be very valuable for future policy learning, development and communication if a large number of business case examples could be compiled.

The role of regions in advancing the digital bioeconomy

- Regions can play an important role in advancing digitization in the bioeconomy. A part of the meeting was therefore dedicated to a dialogue based on experiences from regional development organizations that works to support business and business networks in the bioeconomy to take advantage of new digital technologies.
- Bizmaker inspired the dialogue in this area by providing a presentation of the **Forest Business Accelerator**. The Forest Business Accelerator is an effort in Central Sweden by the regional business development organisation Bizmaker. Bizmaker aims generally to support SMEs in the forest industry to scale up innovative business ideas and to take on international markets. This happens through a network of 12 business advisers that support SMEs within the areas of Business development; Coaching and team skills; Financial advice; Communication and network support; and by offering a Co-working space. Since 2002 Bizmaker has evaluated 3900 business ideas, and helped develop 438 start-up companies. One of the efforts by Bizmaker is the Forest Business Accelerator that aims to connect the region's high tech skills with the skills of the forest industry. More specifically this happens through a mentor and matchmaking effort that helps to accelerate business development in start-ups and to build markets nationally and internationally. One of the first successful new companies emerging from this effort is "Svensk Skogsdata" that offers a unique system for originating logs and digitize the forest flow system. Another is KATAM that offers a smartphone-based application for reliable forestry measurements. More recently the Forest Business Accelerator has helped to accelerate the company Carbon UAV (which has developed drones capable of measuring forest volumes through advanced

sensors, optimized navigation, 3D modelling and machine learning) and Flocell (that offers a unique digital management system for optimizing wastewater treatment).

- Also, the **Norwegian Aquaculture Technology cluster** presented their efforts and inspired dialogue on the role of regions in advancing the bioeconomy through digital solutions. Based in Trondheim – but with activities along the Norwegian coast – the cluster programme aims to develop and deliver technology solutions for sustainable growth in aquaculture food production around the world and to establish a global position for aquaculture farming technology from Norway. The cluster network includes 100 companies and 8 supporting institutions from the universities and business, innovation and research institutions and organisations. Efforts related to the advancing the use of digital applications in bioeconomy business includes e.g. a network of companies and researchers collaborating on the use of sensors, digital monitoring and management; automation in processing; and use of ROV (Remotely Operated Vehicles) and AUV (Autonomous Underwater Vehicles) in aquaculture.
- It was largely agreed that regions and regional business development organisations – through cluster development type efforts can play a critical role – and often more so than national policy initiatives – in providing platforms for innovation, process and product development that involves research institutions and businesses from multiple industrial sectors and areas of expertise. The reason for this being that “regions are closer to business” and “the digital bioeconomy is something that often – at least until now – emerge more out of case-by-case business-focused improvements in process, product and service practices than as a result of designed national policies”.

Supporting national policies for the digital bioeconomy

- The Nordic Council of Ministers has recently initiated a strategy for cooperation on digitization for 2017-2020. It aims to strengthen **cooperation on digitization in the Nordic-Baltic region** through the development of a regional infrastructure based on the European Union’s strategy for the Digital Single Market. A Minister Council for Digitization is responsible for realizing the objectives of the strategy, in particular as regards business development and innovation. Priority areas are development of transnational solutions for national personal digital identification (eID) and roll-out of 5G infrastructure, including cooperation on standards and business models. Among expected benefits will be exchange of data to support innovation in the public and private sector (such as health and business data), improved access to digital services across borders, and fertilizing benefits for

citizens, businesses and authorities by the Nordic-Baltic regions being a frontrunner in the implementation of the European Union's Digital Single Market.

- The **Swedish University of Agricultural Sciences (SLU)** has recently prepared a report on bioeconomy and digitization to support the cooperation efforts between the Nordic countries. The purpose of the report was to identify digitization aspects relevant to the Nordic bioeconomy. The report suggests that future efforts will target 5 overall focus areas, each with 3 specific digitization aspects. The 5 focus areas suggested are; Competence (with a proposal to target digital skills, skills development more generally and matchmaking); Safety (with a proposal to target data security, integrity and new forms of employment); Technology (with a proposal to target technology development, system integration and production); Management and Organization (with a proposal to target new value chains, servicification and innovation); and Infrastructure (with a proposal to target mobile networks, collaboration and standards).
- Also in **Germany** there is increasing awareness on the need to do more to accelerate the bioeconomy through smart use of digital technologies. The German Bioeconomy Council has recently assessed current efforts in the area. Overall the conclusion is that though a number of efforts in the area are ongoing it is critically important for the future competitiveness of the German bioeconomy sector that further efforts are done to ensure cross-fertilization between the rapid development of digital technologies and business development in the bioeconomy. Today digitization is a well-integrated component within business areas of health and industrial biotechnology (in the form of bioinformatics) but for example much less so within the area of agro-based biotechnology. Looking at the research sector, a study has pointed out that research institutions active in the bioeconomy predominately produce research rather directly related to agriculture, food, pharma, chemistry and energy – and less so within the areas of consumer goods, textiles and automobiles, where the digital bioeconomy offers untapped potentials in the form of new value chains, products and services. Now recognizing these gaps one can expect a number of new efforts in Germany to advance the digital bioeconomy in the coming years.

Transnational cooperation can help accelerate the digital bioeconomy in a number of ways

- The dialogue revealed that it is important to improve horizontal connections (i.e. working across sectors) as well as vertical connections (i.e. working at multiple levels of governance) to advance the digitization in the bioeconomy. Transnational cooperation – among regions and among countries – can add value by pooling in particular experience, practices, networks and by creating synergies in efforts.

- More specifically, transnational cooperation among regions can add value to local efforts by:
 - Networking clusters in the bioeconomy: to build awareness of business cases and new business models; to build capacity on skills development services offered to SMEs; to share and develop productive approaches for local public procurement that accelerates the use of digital applications in the bioeconomy; and more.
 - Regions have also demonstrated an ability to pilot small scale innovative technology and business solutions that, if accelerated, can produce significant benefit for producers, consumer and society at large. There seem to be potential benefits to gain if regions were to collaborate around sharing experiences from such pilots and the application of digital technologies in the bioeconomy – including also on the modalities for implementing such pilots.
 - Similar opportunities were identified in the areas of research, test and demonstration where regions through regional intermediates – such as clusters and green business hubs and testbeds – can play an important role in matching local businesses with researchers in hands-on smaller development projects on ground.
- Finally, transnational cooperation among countries can add value to individual national efforts by:
 - Policy learning and cooperation around training and education programmes that target cross-fertilization of academic disciplines related to the bioeconomy and digitization.
 - Policy learning and cooperation around development and management of appropriate systems for data security, countering of data-related hazards, and policies that promote use of digital technologies across sectors.
 - Efforts to support system integration and infrastructure. One example being for that dominant technology platform providers tend to offer different platforms for data collection and management – making it difficult for companies to later migrate their business systems between competitors. “You quickly get stuck with a platform that actually with time becomes inferior others on the market – but the hassle of substitution is often very expensive, so as a small company you stay and try to manage”. Policy makers could ease this burden through e.g. improved standards with



requirements on interoperability between digital technology platforms. Such efforts should obviously be international, possibly with the Nordic-Baltic region being a frontrunner.

- Also, to accelerate business experimentation and innovation, policy makers in the Baltic Sea Region could cooperate around models and practices for utilization of public procurement to accelerate the use of digital technologies in the bioeconomy, e.g. for purposes of resource tracking, waste management and recycling.