

Ten Years of Bioeconomy

Dr. Dr. h.c. Christian Patermann is undoubtedly one of the paramount influencers behind the Bioeconomy as we know it today. He pushed the bio-agenda within the EU over decade ago – and is widely given credit for much of what has developed since. In this article, we are delighted to bring you his latest insights regarding the Bioeconomy's current state and the imminent challenges it faces.



Ten years after its launch in Brussels, the knowledge based Bioeconomy, bio-based Economy or simply the Bioeconomy has conquered a certain position among concepts and strategies for the future. This is to some extent amazing, but nevertheless far from being complete and for example comparable with the idea of the Sustainable Development: More than 50 states, nations and a dozen regions have their "own" strategies, national plans, action plans, road maps etc. carrying directly the

name of Bioeconomy or being clearly closely linked to promoting the use and production of biological resources. Hundreds of so-called bio-based products have been brought to the market, or are being developed in the pipeline by the Agro-Food Industry, the chemical industry, the energy, construction, wood, pulp and paper, cosmetics, daily care industries, etc. More than a dozen chemical molecules have been converted into bio-based ones, being used as bio-based portal chemicals, from succinic acid to levulinic acid etc.

In November 2015 the European Commission, frontrunner and trendsetter in this area, organized in commemoration of the 10th Anniversary of the birth of this concept in Europe not a RTDI-oriented conference, but an investment event. Only a few days later the first global Bioeconomy Summit with participants from more than 60 nations was held in Berlin. Followers of the Sustainable Development are seriously discussing that many of the 18 SDG'S (Sustainable Development Goals) can only be achieved with the increased use of biological resources, and the partisans of the so-called circular economy discover important interfaces and overlaps, sometimes they even talk of the Bioeconomy being part of it.

So everything fine, everything best, lean back and watch comfortably on what is coming?

Not at all! The good position of the Bioeconomy in the concert of competing strategies, concepts and recipes for tackling the grand challenges of the future, is very fragile. The COP21 Conference did not mention the Bioeconomy as a tool for achieving their goals in mitigation and adaptation; the falling prices of fossil fuels jeopardize strongly the future role of biological resources to replace fossil fuels economically sound, and the same applies with respect to new knowledge on how much and how long world - wide fossil deposits will be available in the future, most certainly much longer than predicted by the Club of Rome 45 years ago. And the complex nature of biological resources, of the Biomass world makes longer times of planning, higher financial costs and more uncertainties with respect of societal concerns very visible, when compared with the development of digitalisation so that the preparedness for investments worldwide remains "overseeable".

So what shall we do, what can be done to sail across these stormy weathers?

The answer is not simple. Some thoughts to be shared:

First: Lower the expectations. The Bioeconomy was never conceived to "save the Planet", but an offer to contribute to respond to the grand challenges, not as a silver bullet, but to be valuable in those cases, where biological resources were physically available in abundance (like in the Nordic European States, Canada, Russia etc.) or available with the help of smart technologies, the biotechnology being an important, but not the only source of new knowledge.

Second: There were 4 undeniable preferential "properties" of biological resources which should be kept in mind without any ranking: **Renewability, CO2-friendliness, potentials for re-and multiuse in cascading use formats,** and last but not least **new functions,** like longer lifetime, higher durability, strength, density, less toxicity etc. These edge-cutting advantages in their unique accumulation should be made more known in an understandable, comprehensive and practical way to decision - makers, economists, consumers and interested citizens.

Third: Commissioner Potocnik at the time the Bioeconomy was launched used to speak about **the 4 F's.: Food, Feed, Fibre, and Fuels,** stressing that this was not exhaustive and could be expanded. But it was also clear that there was no room for preferring one of them against the other, so that **a level playing field** among all potential applications was from the very beginning the credo. It would be good to recall this today!

Fourth: The EU started with the knowledge based Bioeconomy, certainly influenced by the mainstream of the first decade in this century to stress the knowledge base of society, of the Economy etc. Had this wide opening of combination of

various sources, of so-called converging technologies been kept over the years, it would be much easier, more plausible and understandable today to join forces with digitalization (Big DATA, added manufacturing, 3D-printing etc.), the One Health Initiative, (integrating human, animal and plant health plus Agrobusiness) and the so-called CO2 Economy, **taking CO2 as a renewable resource** and not only as a negative climate factor.

If we focus on the roots of the new Bioeconomy of the 21st century as just outlined, and if we focus on acknowledging that the Bioeconomy is an ECONOMY with strong closeness to Sustainability and an interesting overlap with the circular economy and put the "Innovation and new Functions" label more in the foreground than before, we will remain competitive in the contest of practices and ideas to influence the future. I think it is worthwhile.

Partner introduction - Jukka Kantola

Jukka Kantola is one of the key persons of NC Partnering. Already 2012 he established NISCluster - a bioeconomy Service Company with Professor Olli Dahl and Tuomo Niemi. Since 2016 he's been partner and CEO of NC Partnering.



Jukka has broad experience of the woody biomass related industries. He has held various executive positions in Europe and in Asia. Hence he has a profound comprehension of opportunities and on the other hand challenges of these economies. Jukka is widely networked in the bioeconomy sector and he has a good grasp of the new and emerging applications for the wood.

Jukka is a great advocator for the bio-economy and is tenaciously facilitating novel and existing biomass applications. He is frequently delivering speeches in international bio-forums. Recently NC Partnering has been excelled with novel biorefinery evolvments. NC Partnering gave a design for the awarded Boreal Bioref in the international biorefinery competition arranged by Finnish Ministry of employment and the economy and NCP is also engaged with KaiCell Fiber development.

Jukka holds a M.Sc. from the Aalto University. He also holds an eMBA from the Rutgers University. He is married with three sons.

With Jukka's enthusiasm and drive NC Partnering is developing to become insightful operator on bioeconomy challenges.

Latest news

4thBioEconomy Stakeholders' Conference was held in Utrecht on April 12&13. Manifesto is underlining importance of economics alongside environmental aspects <http://www.bioeconomyutrecht2016.eu>

NCP is open for reinforcing its cluster network. Interested – pls. contact info@ncpartnering.com.

April has been very busy month again. For instance NC Partnering was delivering a speech on biorefinery evolvments speaking in Cologne, April 5th/6th at Biomaterial seminar <http://biowerkstoff-kongress.de/programme>.

Happy to see you in Kajaani, Kainuu Bio-event, on April 25th, where Jukka Kantola will present KaiCell Fibers case. <http://kuiskintaa.fi/kainuun-biotalous-tulevaisuusfoorumi-25-4-2016/>



To find out more please follow us on twitter @NCPartnering