

Summary of the Roundtable on Industrial Biotechnology in Estonia

5 September 2008, Tallinn

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Introduction

The roundtable on industrial biotechnology in Estonia took place on the 5th of September 2008 in Tallinn (Tallink City Hotel). The event was initiated by EuropaBio in the framework of the European Technology Platform on Sustainable Chemistry - "SusChem".

The roundtable has been locally organised by Maarika Merirand for the Estonian Biotech Association.

Participants to the roundtable were representatives from academia, enterprises, development agencies and ministries/government bodies with an interest in the field of biotechnology (see Annexes).

Roundtable on industrial biotechnology in Estonia

- Maarika Merirand (Estonian Biotechnology Association) welcomed participants and presented the general objectives of the roundtable.
- A tour de table was organised to let participants introduce themselves.
- Jaanus Pikani (Estonian Biotechnology Association - Ebio) started by presenting the ScanBalt region project of which the National biotech association is an active member. ScanBalt regroups 11 countries, 67 universities and more than 700 biotech/life science companies.
He then presented the key area in term of biotechnology in Estonia and the strength of the Estonian biotech sector: population genomics; contract research; biomedical infrastructure (gamma sterilization, clean room services etc) and in vitro combinatorial chemistry, library building.
The number of biotech companies is increasing continually since 2000 and in 2007 there were 55 companies active in the biotech sector. A very large majority of these enterprises are active in the field of healthcare biotech and environmental biotech and biomaterials.
He also presented the Estonian biotech association and its work. The biotech association has been founded in 2003 to represent the biotech community towards the government and the public at regional, national and international level. It is composed of 22 members from academia and industry.
Ebio developed with its members an “Estonian Biotechnology Strategy 2008-2013” which aims to serve as an advisory document for the Estonian government, parliament and local authorities on how they could efficiently support the Estonian biotechnology sector. This strategy estimates that by 2013, the sector will have passed the incubation phase will have become Estonia’s fastest-growing sector. 3 points are particularly underlined to reach the objective fixed in the strategy
 - improve the quality of research and human resources,
 - increase the inflow of financial resources and
 - improve the environment, rules and support schemes regulating biotechnology
- Camille Burel (EuropaBio) presented the Technology Platform on Sustainable Chemistry (SusChem) and the Strategic Research Agenda for Industrial Biotechnology. The Industrial Biotechnology section ensures a coherent policy framework and the most effective use of R&D resources. It guarantees that biotechnology is properly integrated in the chemical industry. She presented the impact of industrial biotechnology on the knowledge based-bioeconomy and its potential (notably environmental).
The strategic research agenda that has been developed by SusChem looks into the future impact of Industrial Biotechnology and lays out the major research areas which must be addressed to move from a flourishing set of scientific disciplines to a major contributor to a future knowledge-based economy. It focuses in particular on the research needed to underpin three broad topics: biomass, bio-processes and bio-products, including bio-energy. Finally, she presented the different initiatives that exist in industrial biotech research: ERA-IB and KBBE-NET saying that critical mass and leadership are needed to create a true knowledge based bioeconomy.
- Maurice Lex (DG Research, European Commission) presented biotechnology and the Knowledge-Based Bio-Economy (KBBE) in the 7th Framework Programme for Research and Development. More specifically, he presented
 - The major trends/challenges affecting bio-economy today and the current situation
 - The European Life Sciences and Biotechnology Strategy for Europe and its review in 2007.

- A general picture of FP7 as well as KBBE thematic that are covered by FP7.
 - Some statistics on the first and second calls in the field of biotechnology as well as the way work programmes are prepared and the evaluation processes
 - The main lines of the 3rd call that had just been published as well as some elements on the joint biorefinery call.
 - The different platforms and networks related to biotechnology in Europe. He notably stressed the fact that that success will depend on coordination and mobilisation of all actors.
 - The lead market initiative for bio-based products that has been announced by the Commission in December 2007.
- Meelis Sirendi and Argo Soon (Archimedes Foundation) presented the Estonian participation in FP7 and COST programme.
They started with a general introduction on FP7 and biotechnology. They pointed out that the majority of projects in which Estonian biotech actors succeeded in the second call of FP7 were in health biotech (success rate of 18/90) and agri-food biotech (success rate of 5/16)
They also said that 4 Estonian competence centres are involved in biotech R&D: competence centre of food and fermentation technologies; competence centre of healthy dairy products; Estonian nanotechnologies competence centre; competence centre for cancer research.
Estonian biotech companies are also involved in the COST programme (European cooperation in the field of scientific research). This involvement concerns mainly healthcare and agri-food biotechnology but some topics are related to industrial biotechnology such as “chemistry and molecular sciences and technologies”.
 - Camille Burel (EuropaBio) presented the Policy Agenda for Industrial Biotechnology developed by EuropaBio and the Lead Market Initiative that was adopted by the European Commission in December 2007.
Firstly, she presented the commitment of some European companies for industrial biotechnology (DSM, Evonik, Novozymes, Biohub, etc.). She explained this commitment by the advantages that bring industrial biotechnology (increase of the labour productivity, decrease of pollutants and less use of energy...).

The Policy Agenda developed by SusChem aims to:

- establish a coherent European Policy Agenda for the Knowledge Based Bioeconomy (KBBE)
- stimulate and support innovation in plant science and industrial biotechnology
- promote production and use of bio-based products and processes
- create awareness amongst all stakeholders
- improve investment in IB SME's

She also stressed that cooperation is needed between all actors (research, agriculture, enterprises, environment...) and at all levels (local, regional, national, european...) to ensure a coherent, consistent and certain framework supporting bioproducts and industrial biotechnology.

The Lead Market Initiative (LMI) was adopted in December 2007 by the European Commission. It selected 6 areas where the Commission intends to place Europe as leader. One of the six is dedicated to bio-products. The LMI for bioproducts supports bio-based products (“green materials”) and rural development (“biorefineries”), aims at turning industrial production to a more sustainable way and builds on key European strength: excellent biotechnology research base; strong chemical and enzyme industries; availability of biological resources; strong political support for advanced concepts of sustainable production.

- Olavi Otepalu (Enterprise Estonia) presented the Estonian public support to biotechnology. More specifically, he detailed 3 programmes:
 - Developing knowledge and skills which aims to improve competitiveness through improved skills and knowledge of entrepreneurs, managers and employees (for industry and industry association).
 - Developing new products and services which objective is to improve competitiveness through new or vastly improved products and services (for SMEs and research institutions in collaboration with companies).
 - Export marketing support which aims to improve competitiveness through well planned, targeted and integrated marketing activities (for companies)
- Raivo Vilu (Tallinn University of Technology) presented a business point of view on industrial biotechnology development in Estonia. He pointed out that under the soviet regime there were no biotech companies actives (even though there were some research activities carried out). After the independence, there were no more funds for research and development as all funding came from Moscow. He said that in 2003, Estonian biotech actors took conscience that industrial biotech had to be developed. Until that moment, priorities where medicine, diagnosis and biopharma. At that date, they took conscience that industrial biotech could also participate in GDP.
From his point of view, factors that can contribute to the success of industrial biotech are notably to increase the number of doctoral studies and to involve more deeply competence centres into research. He also said that more success stories were needed.
He finished his presentation by introducing some examples of his researches.

The second half of the roundtable was dedicated to discussion on concrete recommendations and actions aiming at further developing and supporting industrial biotechnology in Estonia.

SWOT analysis of (industrial) biotechnology in Estonia

Strengths

- Strong academia / research in biotech
- Organised (association)
- ScanBalt network
- Deeply involved in healthcare biotechnology

Weaknesses

- Lack of success stories
- No operative strategy for IB at government level

Opportunities

- Estonian biotechnology strategy 2008-2013
- Brand new S&T action plan
- State aid scheme rules
- Structural funds

Threats

- Bureaucracy

Recommendations

- Participants to the roundtable agreed to say that there is enough awareness about structural funds (info day etc.). However, they noted that improvements are still needed in term of application and use of available means. They said that it is not easy to apply and that it takes long time before receiving funds.
One of the reasons that could explain the difficulties met in the application system and the slowness for obtaining funds is the bureaucracy developed by a consortium of ministry. They suggested the creation of a clearer and simpler system.
- During the roundtable it has been noted that research projects are selected by only one expert. In order to objectivise the selection process, a panel of several experts could be more appropriate while choosing projects.
- In order to encourage cooperation between universities, enterprises etc., participants noted that the establishment of “system”, “coordination bodies” which could help researchers to take part in national and international projects and manage them.

Academia and industry also underlined that more fund and incentive for applied science are needed.

Participants also noted that scientists are currently only evaluated on scientific papers they published and this situation does not encourage researchers to transform knowledge to products that lead to commercially viable business. Generally, participant agreed that there is a lack of incentives to pass the border from science to business

- From collaboration comes success. During the roundtable, it has been stressed that more international collaboration and team working was needed. Researchers and enterprises should be encouraged to take part in projects with Wester European member states.
- All participants agreed to say that the level of research in biotechnology is quite high. However, they stressed that to further develop and strengthen (industrial) biotechnology in Estonia, more efforts need to be done in term of education and Phd's studies.

Annexes

Programme

Thursday 5 September 2008 – Roundtable on industrial biotechnology		
Place: Tallink City Hotel, Tallinn		
10:00-10:05	Welcome and opening : Presentation of objectives	<i>Maarika Merirand, Competence Centre for Cancer Research</i>
10:05-10:15	Presentation of participants	<i>all</i>
10:15-10:30	Presentation of the Estonian Biotechnology Association	<i>Jaanus Pikani, Ebio</i>
10:30-11:00	Presentation of the SusChem Strategic Research Agenda	<i>Camille Burel, EuropaBio</i>
Coffee Break		
11:00-11:30	Presentation of biotechnology in FP7	<i>Maurice Lex, DG RTD, European Commission</i>
11:30-12:00	Presentation of biotechnology in FP7 in Estonia and COST program	<i>Meelis Sirendi, Archimedes Foundation</i>
Lunch		
13:00-13:30	Presentation of the SusChem Policy Agenda	<i>Camille Burel, EuropaBio</i>
13:30-14:00	Presentation of policy in the field of biotechnology in Estonia	<i>Olavi Otepalu, Enterprise Estonia</i>
14:00-14:30	Presentation of industrial biotech in Estonia	<i>Raivo Vilu, Tallinn University of Technology</i>
Coffee Break		
15:00-16:30	General discussion and conclusion of the roundtable	<i>All</i>

List of participants

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