



# 4<sup>th</sup> annual European Forum for Industrial Biotechnology & The Biobased Economy



Where Business & Policy Meet

18 - 20 October 2011  
Novotel Amsterdam City Hotel  
Amsterdam, The Netherlands

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# Note from EFIB organisers...

Dear Colleague,

**Join us at Europe's leading Industrial Biotechnology event!**

We are delighted to present the EFIB 2011 programme to you. Organised jointly by EuropaBio and IntertechPira, the event features over 60 directional speakers who will assess the prospects for industrial biotechnology and biobased products in Europe. Taking place in Amsterdam, The Netherlands on 18-20 October 2011, the European Forum for Industrial Biotechnology and The Biobased Economy 2011 will be a must-attend event. This year's programme features two keynote plenary sessions and six parallel tracks, an exhibition and networking opportunities with over 400 attendees expected.

### Programme Content - Day 1

The programme for 2011 opens with a special focus on the importance of feedstock for the bio-based economy with the revision of the Common Agricultural Policy being debated at the moment. Biotech strategies from major corporations such as L'Oreal, KLM and Danone will be presented, followed by Innovation Track highlighting new entrants and RTOs presenting cutting edge bio-based products in the development pipeline. An insightful Research Track will review breakthroughs in industrial biotechnology and biorefinery research projects and present a global round-up of results to date. Also new for this year's programme is the NGO Discussion Session where representatives from NGOs, industry and policy makers will discuss how sustainability can be measured, visualized and implemented in sourcing and the value chain.

### Programme Content - Day 2

A Policy, Financing & Business Development Track will provide direction on global finance and government thinking. As a lack of awareness of the bio-based economy's potential both in the manufacturing industry and amongst policy makers, consumers and even investors has been highlighted, we are organising a special session on Communicating The Bio-Economy, where several specialists, journalists, commercial companies and NGOs will discuss communication tools, projects and best practices. The Innovation Track will include talks on commercial and business development opportunities on the first day and technical breakthroughs on the second day.

EFIB 2011 will be complemented by the largest exhibition to date (nearly sold out!) providing valuable meet and greet opportunities. Social events feature strongly in the agenda - join us and your colleagues on the visit to the world famous Heineken Brewery and additional drinks reception, 1-to-1 Partnering and many networking breaks throughout 2 days at EFIB 2011.

We look forward to welcoming you to Amsterdam this October,

Yours sincerely,

Joanna Dupont  
Industrial Biotechnology Director  
EuropaBio

Ciaran Little  
Head of Events  
IntertechPira

Jan Wisse  
Managing Director  
NIABA

EFIB 2011 is organised in partnership with  
 netherlands biotech industry association

P.S.: Don't forget to book your ticket by 31 May 2011 to save 10%





# About EFIB 2011

# Conference add-ons

As we prepare for the 4th Annual European Forum for Industrial Biotechnology and The Biobased Economy (EFIB), it is timely to consider the growing context and significance of this sector. Climate change is now widely accepted as one of the major global challenges and oil prices remain volatile. For environmental, political and economic security - industry, policy and academia must combine to provide viable bio-based alternatives for materials, energy and products. Europe's knowledge and infrastructure makes it uniquely positioned to lead the revolution and bring the biobased economy to the mainstream.

EFIB is now clearly established as the largest conference in Europe for the bio-based market, bringing together business, policy and research and featuring top-level speakers, a comprehensive exhibition and an attendance of over 400 senior decision-makers. The conference brings together the entire value chain of the bio-based economy: from farmers and feedstock producers to producers of innovative bio-based products.

Exhibiting or sponsoring at the European Forum for Industrial Biotechnology & The Biobased Economy 2011 will provide you with high quality leads and high profile exposure translating into a direct return on investment!

Exhibition and sponsorship packages are selling out fast! To guarantee your place at the exhibition or for further information, please contact Stacey Ludlow on +44 (0)1372 802052 or at [stacey.ludlow@pira-international.com](mailto:stacey.ludlow@pira-international.com)

For more information on different packages or to see the most up-to-date list of sponsors and exhibitors, log onto [www.efibforum.com](http://www.efibforum.com)



## Why you need to attend EFIB 2011?

- » **WITNESS** unmissable keynote presentations from influential politicians, major multinationals from across the supply chain, top global analysts and other major stakeholders in the programme plenary sessions
- » **SELECT** only presentations directly relevant to you in our multi-track programme which enables you as a delegate to freely switch between talks and streams
- » **NETWORK** with the entire IB supply chain - established industry leaders, new entrants, SME's, academics and cutting-edge researchers, policymakers and investors
- » **HEAR** R&D updates from leading academics and research groups operating in IB - this unique forum provides a magnifying glass on new global research findings in Europe as well as new product launches from IB startups and larger players
- » **LEARN** from regulators and government officials around the world how IB policy changes are shaping the industry landscape
- » **VISIT** our exhibition area during conference breaks to see what's new, see some real applications and discover what's on the horizon
- » **ARRANGE** 1-to-1 meetings with key contacts via our networking software sponsored by C-Lecta

## WHO SHOULD ATTEND?

The European Forum for Industrial Biotechnology & The Biobased Economy is designed for the entire IB supply chain and is THE must attend event in Europe for:

- CEO's, MD's and Strategy, Business Development, Marketing and Sales Directors from biochemicals companies and feed stocks suppliers
- Policymakers, government officials, regulators and compliance officers
- Academics, research institutes, R&D professionals and working groups
- Directors of Biotechnology, Sustainability, VP's and CEO's from start-ups and SME's
- Analysts, Investors and Consultants with an interest in IB
- Buyers interested in finding new IB applications for industrial use

## 1-TO-1 PARTNERING SPONSORED BY



The 1-to-1 Partnering at this year's EFIB 2011 conference will allow the participants to identify and meet with new business prospects and cooperation partners during 2 full days of intensive networking at the conference.

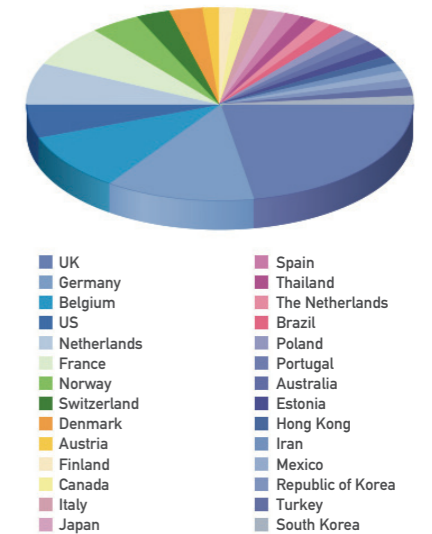
### WHY YOU NEED TO PARTICIPATE?

- Identify the right contacts to meet at the conference
- Arrange meetings with potential business partners prior to the conference
- Get the most from your time spent at the event by planning your meetings effectively
- Return to your office with many new quality leads

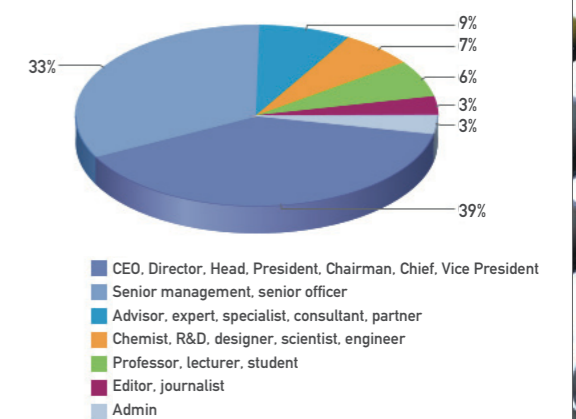
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## EFIB 2010 DELEGATE PROFILE

EFIB 2010 Geographical Delegate Analysis



EFIB 2010 - Delegate Analysis: Job Titles



### NETWORKING AT EFIB 2011

EFIB 2011 will bring together over 400 of the most innovative developers, R&D experts, managers and senior policy makers in white biotechnology. In 2010, 72% of all EFIB attendees were CEOs, Directors, Presidents or Senior Managers. Join this crowd and find new business opportunities at many refreshment breaks in the exhibition area, lunches and drinks receptions!

**Start networking with your colleagues at the Pre-registration Drinks Reception!**

All EFIB 2011 attendees are invited to register for the main conference during an informal drinks reception, serving typical Dutch drinks, in the hotel on Tuesday 18 October from 17.00 to 19.00.



## INVITATION TO THE COCKTAIL RECEPTION AT THE HEINEKEN BREWERY SPONSORED BY



All EFIB 2011 attendees are invited to an informal cocktail reception at the Heineken Brewery in central Amsterdam to network and discuss the day's proceedings at the end of conference day 1, Wednesday 19 October.

For more information on this and other networking events, please visit [www.efibforum.com](http://www.efibforum.com)





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# Wednesday 19 October – Day 1: Plenary Session



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08.00 Registration & Morning Refreshments

09.00 **Opening Plenary Session**

**Chair: Lars Hansen, President Europe, NOVOZYMES, Denmark**

09.00 **Introduction by the Chair of EuropaBio's Industrial Biotech Council**

09.10 **Topic TBC**

**Maxime Verhagen, Deputy Prime Minister, Minister of Economic Affairs, Agriculture and Innovation, The Netherlands (Invited)**

09.30 **EU Agriculture - contributing to and benefitting from the bioeconomy**

- » agriculture provides the feedstock for the bio-based economy
- » the reform of the CAP: what is in for the bio-based economy?
- » rural development: an important tool towards a sustainable economy

**María de los Ángeles Bénéitez Salas, Director, Sustainability and Quality of Agriculture and Rural Development, Directorate General - Agriculture and Rural Development, EUROPEAN COMMISSION**

09.50 **Improving productivity: a need for the European farmers**

- » European agriculture is more and more dependent on the world market - the European food chain occupies approximately 35 million ha outside Europe to feed its 500 million citizens
- » improving productivity in agriculture and ensuring less outsourcing of food production
- » providing a reliable legal framework for farmers and their cooperatives to operate within in Europe with access to any safe farming methods
- » ensuring the safety of European foodstuffs via risk assessment – high quality food at reasonable prices and GM considerations
- » examining the volatility of the agricultural commodity markets and ensuring the food chain better reflects changes in production costs

**Pekka Pesonen, Secretary General, COPA – COGECA (European Farmers – European Agri-Cooperatives), Belgium**

10.10 *Dr Zhangliang Chen, Vice Governor, GUANXHI ZHUAN AUTONOMOUS REGION, China (Invited)*

10.30 **The Biobased Economy: the Rabobank view**

- » trends in F&A space
- » from petrification of agriculture to biobased economy
- » resource efficiency & cost of capital

**Daan Dijk, Managing Director Sustainable Business Development, RABOBANK GROUP CSR, The Netherlands**

10.50 Morning refreshments

11.15 **Bioplastics in the bioeconomy – commercialisation & political support**

- » bioplastics – definition, products and status of market introduction
- » supportive political instruments: lead markets and beyond
- » Europe 2020: new opportunities for bioplastics?
- » what is really needed to make the bioplastics market thrive?

**Hasso von Progrell, Managing Director, EUROPEAN BIOPLASTICS, Germany**

11.35 **Perspective from a major dairy brand owner - how bio-based products are enhancing mainstream brands**

- » how a joint venture partnership between a brand owner (Danone), green packaging manufacturer (Natureworks) and an environmental group (WWF) enables an entire supply chain to come under scrutiny and a new bio-based packaging solution emerge
- » striving to reduce a product's dependence on fossil fuels by 43% and the carbon footprint by 25%
- » PLA yoghurt pots - a bio-based product manufactured from renewable sources
- » technical challenges and recycling considerations
- » how Danone view the potential for bio-based products within the food industry: is this the tip of the iceberg?

**Rainer Barthel, Head of R&D Packaging - Dairy - Central Europe, DANONE, Germany**

11.55 **The potential for biotechnologies as sustainable transformations for cosmetics**

- » our commitment to sustainable development
- » our strategy to eco-design our ingredients using green processes
- » interest of the development of biotransformations
- » reminder of important industrial biotechnologies in cosmetics

**Dr Michel Philippe, Sustainable Transformations Manager, L'ORÉAL RESEARCH & INNOVATION, France**

12.15 **The Road to Sustainable Aviation fuels**

- » bio-energy and bio-fuels as a crucial part of the solution to climate change and energy diversity
- » sustainability considerations and innovation needs
- » KLM's view of the challenged ahead for biofuels in aviation

**Thijs Komen, Director of Business Innovation, KLM, The Netherlands**

12.35 Lunch sponsored by DSM  
will be served for all attendees





# Wednesday 19 October – Day 1, Afternoon Conference Tracks

## Research Track

Breakthroughs in industrial biotechnology and biorefinery research

### 14.00 Opening remarks from the session Chair

Dr Alfredo Aguilar, Head of Unit Biotechnology, Directorate Food, Agriculture and Biotechnology, Directorate General for Research and Innovation, EUROPEAN COMMISSION

### 14.10 CatchBio: catalysis for the sustainable production of chemicals and fuels

» this Dutch public-private consortium aims to develop clean and efficient chemocatalytic technology for biomass conversion  
» scientific highlights of the program will be presented  
» highlights will include the conversion of biomass to energy carriers, bulk chemicals as well as fine chemicals  
» focus will be on lignocellulosic biomass conversion, the lignin fraction in particular  
*Dr Pieter C. A. Bruijninx, Department of Chemistry, UTRECHT UNIVERSITY, The Netherlands*

### 14.30 Process intensification in biotechnology: towards an integrated biorefinery

» general view on biorefineries of the future  
» impact of the integration of conversion and separation processes  
» case studies of integrated conversion and separation processes  
» breakthroughs in the integration of conversion and separation  
» bottlenecks in the integration of conversion and separation  
*Prof. Ludo Diels, Scientific Manager for Sustainable Chemistry, FLEMISH INSTITUTE FOR TECHNOLOGICAL RESEARCH (VITO), Belgium*

### 14.50 Research findings of the Finnish BioRefine Programme

» BioRefine – new biomass products programme of Tekes develops business related to new value-adding products from biomass or new process or business concepts  
» the projects covered in the programme will include a spectrum of products (biofuels, chemicals, materials) utilising biomass in a variety of forms  
» the overview of the programme and highlights of the results  
*Tuula Mäkinen (VTT), Programme Coordinator, FINNISH BIOREFINE PROGRAMME, Finland*

### 15.10 Accelerating the implementation of new technology: the role of RTO's in innovation

» introduction to the European independent RTO's; their way of working and their structure  
» the need for increased speed in implementing new technologies  
» the hurdles and barriers to be overcome  
» tools to accelerate: total value chain development, chain analysis.  
» an example: biosulfur  
*Dr Arij van Berkel, Director of Innovation Chemicals, TNO, The Netherlands*

## 15.30 Afternoon refreshments

### 16.00 Chemistry and biotechnology – a productive partnership

» white biotechnology is one of the keys for future sustainable chemistry  
» high value products can already be produced economically and ecologically.  
» cyclodextrins and cysteine are successful examples at Wacker  
» biogenic bulk chemicals can also be economically and ecologically attractive  
» Wacker evaluates the routes to biogenic bulk chemicals along its value chain: polyvinyl acetate as an example  
*Dr Rupert Pfaller, Manager R&D Biotechnology, WACKER CHEMIE, Germany*

### 16.20 From bioethanol to fine chemicals via specialty chemicals, from lignocellulosic wheat and beet: an (outstanding) example of an integrated biorefinery combining pilot, demo and industrial scales

» presentation of the site of Bazancourt-Pomacle: a 50-year story with a "spirit of innovation and cooperation" leading to an industrial ecosystem with multiple synergies and integrations  
» a parallel and concomitant development of industrial side and R&D side: from a private center to an open innovation platform focused on sugars and industrial biotechnologies  
» some examples for illustrating the different scales of innovation at research (biobased synthons), pilot (furool, pentoses) and demo (succinic acid) scales  
*Yvon Le Hénaff, General Manager, ARD, France*

### 16.40 Bio4Energy - a way to turn Europe's forest resources into a biorefinery

» how can we improve the feedstock?  
» torrefaction an energy-carrier  
» gasification of black liquor.  
» conversion of lignocellulose to second-generation biofuels, green chemicals and bio-materials  
*Prof Stellan Marklund, Department of Chemistry, UMEÅ UNIVERSITY, Sweden*

### 17.00 Cost saving for industrial enzyme production in fungal and yeast organisms: the protein synthesis machinery approach Victor Schut, Chief Business Officer, and Raymond Verhaert, Chief Scientific Officer, PROTEONIC, The Netherlands

17.40 Summary from Session Chairs, followed by the Networking Drinks Reception at the Heineken Brewery

## NGO Session

Implementing sustainability in sourcing & the value chain

### 14.00 Opening remarks from the session Chair

Prof Lene Lange, Director of Research, AALBORG UNIVERSITY COPENHAGEN, Denmark

### 14.10 With the KBBE Strategy under development positions on the extent to which the Bio-economy will help deliver the EU's 2020 goals of sustainable, smart and inclusive growth are being formed.

In addition, the role of industrial biotech, in particular, and its potential to help tackle grand challenges such as climate change and energy security are under scrutiny.

This discussion session, with representatives from NGOs, industry and policy makers will discuss how sustainability can be measured, visualized and implemented in sourcing and the value chain. It will provide a platform for NGOs involved in the development of policy in these fields to express their views and positions on where the challenges, threats and opportunities lie for Europe.

The discussion will cover the areas of feedstock, integrated production processes (cfr. biorefineries) and end products and in doing so the speakers, panelists and participants will aim to address questions such as:

- » Is Europe becoming increasingly isolated with regards to the development of the bio-economy and, if so, how can we better integrate and compete globally?
- » What kind of incentives should be encouraged in order to develop sustainable biofuels and biomaterials?
- » Can the EU Emissions Trading Scheme (ETS) be applied in a different way to develop a sustainable Bio-based economy?
- » What policy measures and incentives need to be developed to ensure sustainability of feedstock?

This session will take place from 14.00 until 17.00

#### SESSION PANELLISTS:



*Ian Hudson, President, DuPont EMEA, Switzerland*



*Willy De Greef, Executive Director, IBRS, Belgium*



*Tone Knudsen, Deputy Director, BELLONA FOUNDATION, Norway*



*Richard Perkins, Senior Commodities Adviser, WWF, UK*

*Danielle de Nie, Team Co-ordinator Energy and Climate, IUCN, The Netherlands*

*Sven Sijlhorst, Programme Officer Sugarcane and Biobased Economy, SOLIDARIDAD, The Netherlands*

*Meghan Sapp, Secretary General, PANGEA, Belgium*

## Innovation Track 1

Innovative biobased products in the pipeline from building blocks to end products

### 14.00 Opening remarks from the session Chair

Prof Luuk van der Wielen, DELFT UNIVERSITY OF TECHNOLOGY, The Netherlands

### 14.10 Industrial application of spider silk, one of nature's most innovative biopolymers

properties of natural and recombinant spider silk -challenges in industrial biotechnological production of spider silk  
» AMSilk's applications and first products  
» outlook for a new high performance material  
*Axel Leimer, Managing Director, AMSILK, Germany*

### 14.30 Bio-photovoltaics: a new approach to capturing solar energy

» the photovoltaic market and the place for biology in it  
» the relevance of microbial fuel cells  
» Ortus Energy bio-PV technology  
» technical challenges in photosynthetic electron transfer  
*Dr Neville Hargreaves, CEO, ORTUS ENERGY, UK*

### 14.50 Developing cellulosic ethanol through a new bacterial platform

» deinococcus, a very well suited bio industrial platform.  
» ongoing development of second generation ethanol.  
» specific advantages of using deinococcus  
» partnership and business Models discussion  
*Michael Krel, Business Development Director, DEINOVE, France*

### 15.10 Biobased succinic acid: enabling a sustainable new product platform, inspired by nature

» innovative new applications for biobased succinic acid: innovation potential and examples  
» a portfolio of products for a range of markets  
» commercial-scale supply: first to market with commercial scale production, plant construction in North America and Asia  
» technology partnerships with Cargill, MATRIC, DuPont and Mitsui & Co  
*Babette Pettersen, Vice President Marketing & Sales, BIOAMBER, Belgium*

### 16.00 The sugar platform: second generation biorefineries for a bio-based economy in Europe

» bio-based economy: potential in Europe  
» sugars as platform for biobased chemicals and biofuels  
» developing processes/concepts for second generation biorefineries  
» two case studies: liquebeet & sunliquid  
*Dr Irina Sterr, Business Development Manager, Corporate R&D, SÜD-CHEMIE, Germany*

### 16.20 From lab to commercial scale – biocatalysis works!

» evocatal technology platform e.g. screening, expression, production  
» evozymes as technical biocatalysts: fine chemicals need fine enzymes  
» process development: application of biocatalysts for chiral synthesis  
*Dr Thorsten Eggert, CEO, EVOCATAL, Germany*

### 16.40 Cost-efficient production of difficult-to-express proteins in methylotrophic yeast

» production of industrial enzymes for feed/food, fine chemical and bio-fuel production  
» optimisation of fermentation parameter  
» application of waste streams from renewable resources as carbon and nitrogen sources  
*Michael Weniger, Head of Process Development, ARTES BIOTECHNOLOGY, Germany*

### 17.00 Improving on designer bugs through enzyme engineering

*Andreas Buthe, Business Development Manager, C-LECTA, Germany*

### 17.20 Bioindustry2021- the innovation center for industrial biotechnology

*Dr Thomas Niemann, Clustermanager, CIB FRANKFURT, and Director of the Economic Development Project "Hessen-Biotech", HA HESSEN AGENTUR GMBH, Germany*

# Thursday 20 October - Day 2, Morning Conference Tracks

## Strategy Track

Communicating the bio-economy

### 08.30 Morning Refreshments and Registration

#### 09.00 Opening remarks from the session Chair

Joanna Dupont, Industrial Biotech Director, EUROPABIO, Belgium

#### 09.10 Communicating the bio-economy

- » the stakeholder landscape; challenges and opportunities for the vision of a biobased economy
  - » global priorities towards policy makers, NGOs, the public
  - » Novozymes' key components in positioning the biobased economy
- Mads Madsen, Head of Corporate Positioning, NOVOZYMES, Denmark*

#### 09.30 The challenge in communication: Bioeconomy

- » The challenges: describing the need for a new quality in communication (increasing complexity, divergent stakeholder groups, process characteristics)
  - » working examples: need for an expanded tool kit (combination of classical and novel PR instruments)
  - » the framework: growing importance of social networks and interaction of instruments
  - » The Rosetta Stone: searching for the right combination of specialism and generalization
- Dr Jens Freitag, Head of Berlin Office, GENIUS - SCIENCE & COMMUNICATION, Germany*

#### 09.50 Standards and certification to communicate voluntary biobased product labeling: the USDA and ASTM international approach

- » introduction to ASTM standards for communicating the biobased content of material in products
  - » overview of the USDA Biobased Product Labeling Program and our role
  - » Update on industry embracement and participation (statistics and use globally)
  - » discussion on how to participate and get involved
  - » ASTM International's continuing efforts to meet consumer demands and regulatory drivers for biobased products of the future
- Tim Brooke, Vice President of the Certification, Training and Proficiency Testing, ASTM INTERNATIONAL, US*

#### 10.10 Communication: a key issue in the transition to a biobased economy?

- » clarifying sustainability: just for products or for biomass as a whole?
  - » trustworthiness in scientific uncertainty: the pitfalls of engagement
  - » who is responsible for sustainability?
  - » impact of social perceptions in the innovation chain
  - » importance of aligning global messages
- Patricia Ossweijer, Professor and Group Leader of the Section Biotechnology and Society in the Department of Biotechnology, Faculty of Applied Sciences, DELFT UNIVERSITY OF TECHNOLOGY, The Netherlands*

#### 10.30 Communicating the bioeconomy: down-to-earth

- » a Biotech Cluster's target groups for communication: aiming for experts or a broad audience?
  - » communication beyond buzz words: tools, experiences and best practices
  - » how to assess impact: necessities and limits
- Matthias Neger, Head of BIO.NRW Office, BIO.NRW - BIOTECHNOLOGY CLUSTER NORDRHEIN-WESTFALEN, Germany*

### 10.50 Morning Refreshments

#### 11.20 The speakers above will join panellists for a debate on the subject of: Communicating The Knowledge-Based Bio Economy (KBBE)

Additional panellists:  
Dave Keating, Senior Reporter, ENDS EUROPE, Brussels

#### 12.20 Lunch

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## Policy, Financing & Business Track

Development from feedstock to end product

#### 09.00 Opening remarks from the session Chair

Nathalie Moll, Secretary General, EUROPABIO, Belgium

#### 09.10 A new European Strategy For Key Enabling Technologies (KET): what is in it for industrial biotechnology?

- » why is industrial biotechnology recognised as a KET by the European Commission
  - » what hinders the industrial deployment of KETs in Europe: main findings of the High Level Group
  - » overview of the main policy recommendations proposed by the High Level Group, and their relevance for the industrial biotechnology sector
- Dr Andre Koltermann, Group Vice President, Corporate Research & Development, SÜD-CHEMIE, Germany*

#### 09.30 The biobased economy in the Netherlands

- » how to formulate business cases
  - » contributing to the biobased economy
  - » examples performed by the platform
  - » public-private partnerships
- Ton Runneboom, Chairman Biorenewables Business Platform, Biobased Economy Programm of the MINISTRY OF ECONOMIC AFFAIRS, AGRICULTURE AND INNOVATION. The Netherlands*

#### 09.50 Bio-based products in the EC's Lead Market Initiative

- » creating an innovation-friendly policy-environment
  - » policy recommendations
  - » recent developments
  - » the way beyond the Lead Market Initiative
- Peter Schintlmeister, FEDERAL MINISTRY FOR ECONOMY, FAMILY AND YOUTH, Austria*

#### 10.10 SHOK: a new innovation instrument for pre-competitive research

- » can the gap between basic research and industry-driven development work be avoided and the time from idea to innovation thus shortened
  - » six Strategic Centres for Science, Technology and Innovations (SHOKs) have recently been established in Finland to tackle this task
  - » overview of a SHOK and a SHOK programme: Forestcluster Ltd. and the Future Biorefinery Research Programme (FuBio)
- Dr Niklas von Weymar, Programme Manager, FUBIO FORESTCLUSTER, Finland*

#### 10.30 Successful cluster strategies realizing industrial biotechnology target market

- » key technology
  - » cluster members
  - » status of development of the cluster
  - » international cooperation and visibility
- Dr Manfred Kircher, Chairman, CLIB2021 - CLUSTER INDUSTRIELLE BIOTECHNOLOGIE, Germany, Prof Luuk van der Wielen, Director, B-BASIC, The Netherlands, & Christophe Rupp-Dahlem, Bio-Hub & Programs Director Vegetal Based Chemistry, ROQUETTE FRERES, France*

#### 11.20 Toulouse white biotechnology: a pre-industrial demonstrator for the development of renewable carbon applications

- » mission: promoting the development of a bio-based economy, taking into account the competition of carbon sources with food use, as well as bioethic constraints
  - » target: creating innovative biological tools (enzymes, microbial strains and consortia)
  - » vision: together a critical mass of scientists and engineers for the development of innovative products and processes (public-private consortium).
- Prof Pierre Monsan, Member of French University Institute and French Academy of Technology LISBP-INSA, France*

#### 11.40 China's bioenergy industry

- » China's growing use of renewable energy
  - » production and consumption of bio-based chemicals
  - » proactive government support policies
  - » a few infrastructure and financing updates
  - » the continued role of international collaboration
- Elizabeth Nesbitt, International Trade Analyst for Biotechnology and Nanotechnology, U.S. INTERNATIONAL TRADE COMMISSION, US*

#### 12.00 Towards a bio-based economy - models for public-private partnerships for 2nd generation bio-refineries

- » overview of needs and gaps in the financing and implementation of 2nd generation bio-refineries
  - » potential business and financing models for public-private collaboration
  - » roadmap forward - towards implementation
- Wouter Deelder, Partner, DALBERG, Switzerland*

### 12.20 Lunch

## Innovation Track 2

Innovative biobased products in the pipeline from building blocks to end products

#### 09.00 Opening remarks from the session Chair

Nicolas Denis, Principal, McKinsey & Company, Belgium

#### 09.10 How innovative use of industrial biotech tools can answer to industrial processes sustainable evolution: the case of enzymes

- » today's innovative enzymes applications in very different industrial fields meeting the global targets of the future biobased economy
  - » industrial biotech apart from biofuels and biomass
  - » today's impact of industrial biotech tools on replacing the fossil-based economy variety of enzymes innovative applications
- Gauthier Boels, Head of Research and Development, REALCO, Belgium*

#### 09.30 Transforming industrial biotechnology with innovative products

- » combining expertise in industrial biotechnology with engineering excellence to address global markets
  - » creating a fermentation pathway for C4 chemical development
  - » future consumer/industrial bioplastic-based products and overall plastics market impact
  - » scale-up activities for the first C4 chemicals and industrial chemicals to follow
  - » the global nature of these developing technologies and the potential commercial markets they could positively impact
- Dr Oliver Peoples, Chief Science Officer & VP, Research & Development, METABOLIX, US*

#### 09.50 Emerging business models to improve commercial success in industrial biotechnology

- » most exciting industrial biotech segments are active pharmaceutical ingredients and cosmetics
  - » SMEs are driving technological and commercial development
  - » producers and service providers are established business models
  - » split-off of value chains and strategic outsourcing activities enable emerging business models
  - » Autodisplay Biotech serves as a solution provider, enabling the expression of challenging enzymes
- Dr Gunter Festel, Head of Business Development, AUTODISPLAY BIOTECH, Germany*

#### 10.10 Synergies between life and materials sciences for biobased polyamides and polyesters

- » biobased materials
  - » polyesters
  - » polyamides
  - » succinic acid
  - » biobased diacids
- Dr Marcel Wubbolts, VP Research & Technology, DSM INNOVATION CENTRE, The Netherlands*

#### 10.30 Biocatalytic coatings for the production of clean fuels and chemicals

- » biocatalytic coatings - combining biotechnology and material science
  - » advanced design and production options for biocatalytic reactors enabled by biocatalytic coatings
  - » example applications: biodesulfurization of petroleum and solar biofuels production
  - » implications for biocatalysis business models
- Marc von Keitz, President & CTO, BIOCEE, US*

#### 11.20 Synthesis of specialty carbohydrates through metabolic engineering

- » developing a platform technology to efficiently produce specialty carbohydrates through fermentation with industrial microorganisms that haven been metabolically engineered
  - » efficiently producing monosaccharides and oligosaccharides with non-conventional groups
  - » ability to produce any natural carbohydrate with applications in the areas of food ingredients, nutraceuticals, cosmetics, personal care and pharmaceuticals
- Prof Wim Soetaert, InBio.be Centre of Expertise for Industrial Biotechnology and Biocatalysis, GHENT UNIVERSITY, Belgium*

#### 11.40 Infinite mass: using municipal waste to make biomass as a feedstock for biorefining

- » biomass and sustainable biomass
  - » autoclaving and its benefits (the Graphite process)
  - » feedstock for the infinite society
  - » bio-production
- Daniel Noakes, Process Engineer, GRAPHITE RESOURCES, UK*

#### 12.00 Identifying opportunities for sustainable feedstock supply in next generation bioplastics

- » innovations to move from 2nd to 4th generation PLA
  - » carbohydrate versus biomass supply situation
  - » moving towards long-term stability in feed-stock pricing
- Dr Hans van Der Pol, Global Marketing Manager for Bioplastics and Succinic Acid, PURAC, The Netherlands*

FOR FURTHER INFORMATION CONTACT

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### Financing Innovation in The Emerging Biobased Economy

- 13.50 **Opening remarks from the Chair:**  
**Volkert Claassen, Vice President Strategy and Partnerships, DSM INNOVATION CENTER, The Netherlands**
- 14.00 **Commissioner Geoghegan-Quinn, European Commission Research & Innovation (Invited)**
- 14.15 **The role of the biobased economy in the EU innovation strategy**  
» the role the Parliament can/will play in the development of the new EU Strategy for the "knowledge based bio-economy"  
» what can be done at political level to support the development of a "sustainable" bio-based economy  
**Bas Eickhout, Member of the European Parliament, GROENLINKS (DUTCH GREENS), The Netherlands**
- 14.30 **The next decade: how industrial biotech will answer the call of a changing world**  
» how biotech can address challenges and other global megatrends of the 21st century, including: using fewer resources to produce more; replacing fossil fuels in transportation and manufacturing processes; and improving sustainable practices in the industry to protect the environment  
**Tjerk de Ruiter, Chief Executive Officer, GENENCOR, US**
- 14.50 **Transforming plant-derived raw materials into bulk chemicals - a genuine alternative to petrochemicals**  
» developing green chemistry and biotech processes that deliver sustainable benefits - from R&D laboratory to industrial pilot  
» generating innovation with a five products portfolio protected by the solidity of intellectual property  
» guaranteeing total control on technology with processes industrialisation strategy  
» implementing industrialisation strategy: case study: manufacturing PDO (1,3 propanediol)  
**Dr Benjamin Gonzalez, CEO, METABOLIC EXPLORER, France**
- 15.10 **Driving innovation at Evonik**  
» building innovation platforms and networks  
» balancing strategic and operationally-driven innovation: short and long term risk  
» seeking and managing the right partnerships with industry and academia  
» how can Europe speed up innovation?: culture and societal considerations  
**Dr Peter Nagler, Senior Vice President, Innovation Management Chemicals & Creavis, EVONIK DEGUSSA, Germany**
- 15.30 **CLOSING PLENARY KEYNOTE ADDRESS:**  
Challenges to financing a global biobased economy: opportunities for emerging economies  
» The usual: early stage companies require a multitude of funding sources to fund their R&D, including grants, loans, Angel investors, and venture capital  
» The unusual: biobased technologies quickly move from the lab into "big iron" facilities such as pilot plants, demo scale and finally commercial scale facilities stressing venture backed companies  
» companies are moving to capital light business models including retro fit and depending on corporate partners for a significant portion of the capX  
» commercialisation deals will involve a biomass partner, a technology partner and an off-take partner and will require \$100s of millions in capital expenditures. An opportunity for financial institutions and emerging economies  
» uniquely many of these deals will also be global in nature as the technology is moved to regions that can guarantee long term supplies of biomass. Many times this will be in countries with emerging economies  
» thus those emerging economies that can attract investment capital for commercialization of industrial biotechnology have an opportunity to move into developed nation status  
**Dr Roger Wyse, Managing Director & General Partner, BURRILL & COMPANY, US**
- 16.00 **Closing Remarks from the Chair**
- 16.10 **Close of Conference and refreshments**



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