



INDUSTRIAL BIOTECHNOLOGY IN POLAND

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¹ Please send your contributions and modifications to [a.peeters\[at\]europabio.org](mailto:a.peeters[at]europabio.org)

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INTRODUCTION

A strong tradition in science as well as a high level of education provides an opportunity for creation of a fully developed modern biotechnology industry in Poland. However, today, there are only 20 enterprises active in the biotech sector; 8 are in the field of industrial biotechnology. The agricultural sector is important in Poland and industrial biotechnology could represent a new opportunity for its development. In 2008, the Polish Government announced an action plan towards the development of industrial biotechnology in Poland. This action plan aims to support industrial biotechnology research and to further develop bio-based products.

I. RESEARCH AND INNOVATION

Modern industrial biotechnology is a relatively new discipline, with major areas of knowledge still to be explored. Public support to research as well as the establishment of pilot and demonstration facilities to scale-up individual processes will therefore help in the development of a European bio-based economy.

A. Public research funding

The Ministry of Science and Higher Education (MSHE)² and the Technical University of Lodz³ are member as partner of the European Research Area for Industrial Biotechnology (ERA-IB)⁴.

In 2005, the State budget support for R&D in biotechnology amounted to PLN 126 million (€35,33 million⁵). This budget corresponds to 4% of the overall support for R&D in Poland in 2005. 15% of the 2005 biotech R&D budget was dedicated to industrial biotechnology projects (50% for healthcare biotechnology and 35% for agri-food biotechnology).

In March 2008, the Ministry of Science and Higher Education adopted the "Action plan: towards the development of industrial biotechnology in Poland"⁶. This action plan addresses mainly two types of activities: research and development activities (R&D) as well as system activities (policy). The main points of R&D activities are:

- Unique and improved biocatalysts, metabolites and microorganisms of new generation as essential tools for bioprocesses
- Production of biodegradable biomaterials and polymers
- Integrated biorefineries – bioprocesses for production of new generation of liquid and gaseous biofuels and recovery of high value added components from by-products and wastes

B. Pilot and demonstration plants

No information

i. pilot plants

a) **Open to all**

Title	
General, products, feedstocks	
Services	
Financing	
Contact	

b) **Partly restricted**

c) **Restricted**

² <http://www.eng.nauka.gov.pl>

³ www2.p.lodz.pl/en

⁴ <http://www.era-ib.net>

⁵ November 2008 : 1€ =3,56 PLN

⁶ Prof. Bielecki, roundtable on industrial biotechnology in Poland, 3 July 2008.

ii. demonstration plants

Title	
General, products, feedstocks	
Services	
Financing	
Contact	

- a) **Open to all**
- b) **Partly restricted**
- c) **Restricted**

II. POLICY

Public authorities can promote the quick take-up of industrial biotechnology innovations by implementing a number of “instruments” or policy initiatives. This can be the improvement of the regulatory framework; the integration of specification for bio-based products in public procurement; the establishment of standardisation, labelling and certification schemes to overcome perceived uncertainty about product properties and weak market transparency; the development of financial instruments and supports to increase investments into research, technology development and innovation as well as the elaboration of communication and information campaign to communicate the benefits of bio-based products to users.

A. Policies and regulations(sources to add)

In December 2005, a conference on the “Perspectives and trends in development of biotechnology in Poland until 2013”⁷ was organised by the Polish Academy of science. One of the main foci was placed on the development of industrial biotechnology. As a result of this conference, the following trends for the development of industrial biotechnology were placed on the agenda to develop through 2013:

- microbial genomics and bioinformatics
- metabolic engineering and modelling
- biocatalyst function and optimisation
- biocatalyst process design
- innovative fermentation science and engineering
- bioproduct isolation and purification
- novel enzymes and microorganisms

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- Legal regulations
- Initiating of legislative and administrative activities

Centre of Excellence for Industrial Biotechnology – **information needed**

The Polish Technology Platform for Biotechnology⁹ has been established in January 2005 in the framework of the European Technology Platform for Sustainable Chemistry (SusChem). It is coordinated by the Technical University of Lodz and the Centre of Excellence of Industrial Biotechnology.

It gathers 18 industrial partners, 5 advanced technology centres, 7 centers of excellence, 4 research institutes, the Polish Federation of Biotechnology and the National Contact Points for EU Research Programmes of the EU.

The main objectives of the platform are:

- to build a platform between science and industry in scope of development of new biotechnologies
- to integrate key economic and research partners interested in technologies based on bioprocesses
- to build a strategy for developing modern biotechnology in Poland

⁷ www.biotechnologia.com.pl/upload2/Scan_Balt_atlas_biot.pdf

⁸ Prof. Bielecki, roundtable on industrial biotechnology in Poland, 3 July 2008.

⁹ <http://www.zinatne.lv/NBCC/files/File/Polish%20Technology%20Platform%20for%20Biotechnology%20NBCC%20PM%2008%2004%202006%20final.PPT>

- to elaborate implementation methods of new biotechnologies in industrial processes, health care, environment and agriculture
- to take optimum advantage of Structural Funds
- to participate actively in European Research Programmes
- to promote biotech processes and products
- to cooperate in creating policies and law facilitating the development of biotechnology

Interdisciplinary Advisory Group of Experts for development of KBBE – information needed

B. Public procurement

No information.

C. Standardisation, labelling and certification

No information.

D. Access to finance

No information.

E. Communication

No information.