Lodz University of Technology

International Center for Research on Innovative Biobased Materials (ICRIBioM)

ESAB European Society of Applied Biocatalysis

STOWARZYSZENIE KLASTER BIOGOSPODARKI

The Nexus between Food Systems and Biomanufacturing

Partnering for the Future: BIOEAST and Beyond

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The Nexus between Food Systems and Biomanufacturing

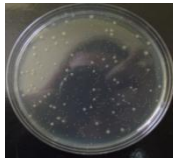
Novel Bioproducts and Novel Biomaterials

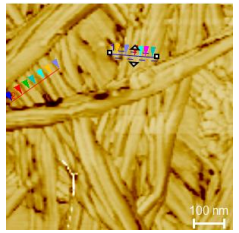
Biomass → Substrate → *Komagataeibacter xylinus* (wild type / modified) → Bacterial NanoCellulose

Sugar / waste

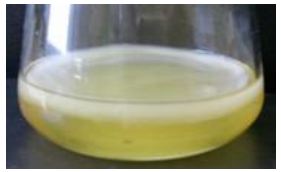
pretreatment

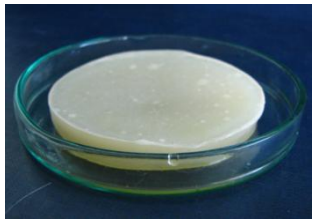
screening





novel biomaterials





New Bioproducts

Food System → Biomanufacturing

There are many connections and links between Food Systems and Biomanufacturing

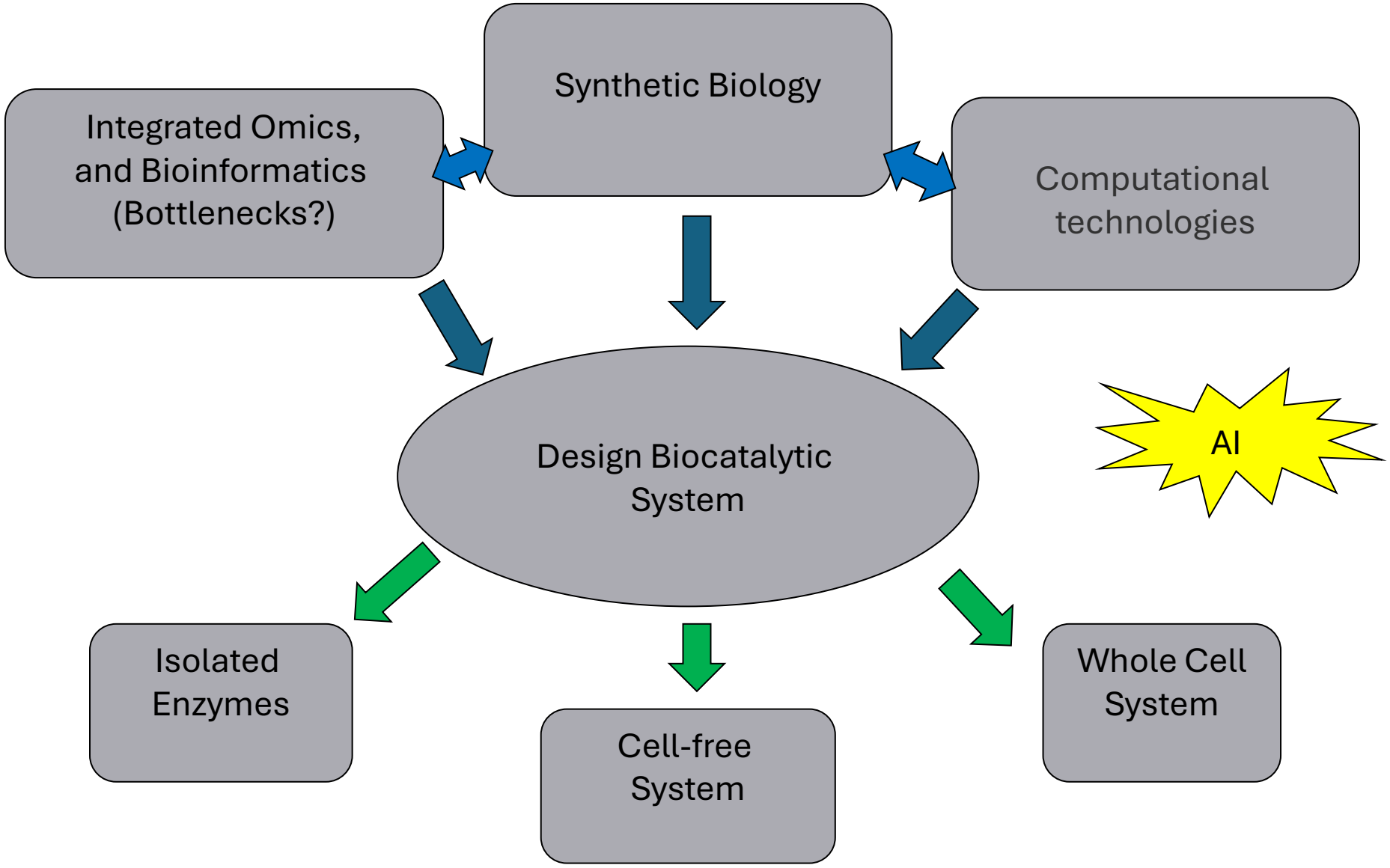
- Strategic autonomy in biomanufacturing of phosphorus- and nitrogen-containing fertilizers, plant and crop protection compounds, antifungals etc.
- Parts of the primary biological raw materials which cannot be used as food components can be of interest for preparing staring materials for biomanufacturing
- Opportunities for creating new value from side products of food production systems
- Waste accumulating during food processing of primary biological raw materials used for food production as raw material for biomanufacturing
- Food waste as raw material for biomanufacturing
- Cellular Agriculture
- Education and Development of Skills

Be developed through safe, secure and responsible use of **science, technology, innovation and traditional knowledge**, with potential benefits, risks and impacts **assessed scientifically**".

(G20 High-Level Principles on Bioeconomy. Brasil 2024)

Biocatalysis as Key for Transforming biobased Raw Materials

Interdyscyplinary approach for processes development



The Nexus between Food Systems and Biomanufacturing is an Emerging Area of Research and Practice

The problems in developing the biobased sectors are not exclusive to Poland and are prevalent across the EU economies. In a sector that demands more risk and capital than most others, further growth in the more advanced sectors of the bioeconomy will depend on more supportive policies, including taxonomies for biobased products and infrastructure such as demo and pilot plants

https://worldbiomarketinsights.com/wp-content/uploads/2024/10/Polands-growing-bioeconomy

Thank you for your attention