

**INNOVATIVE AND INDUSTRIAL
CLUSTER IN THE FIELD OF
BIOTECHNOLOGY AND
“GREEN” ECONOMY OF
POLESSKY STATE UNIVERSITY**



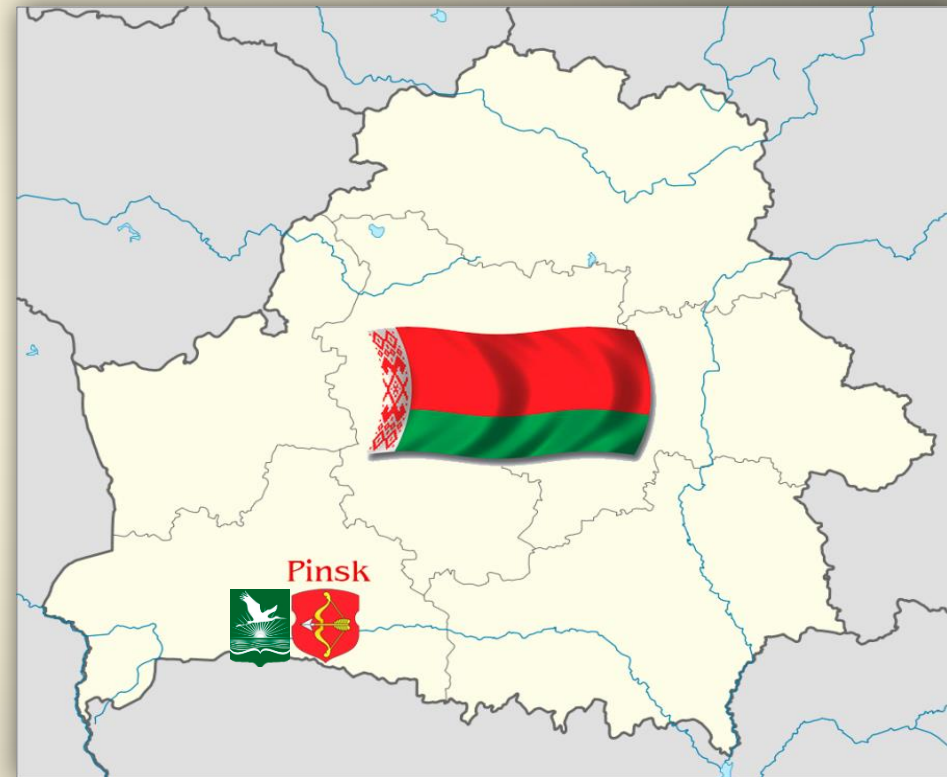
Polessky State University



**Pinsk,
Republic of Belarus**

Polessky State University (PolesSU)

*is an educational establishment
opened in 2006
to train specialists
for various fields of national economy*



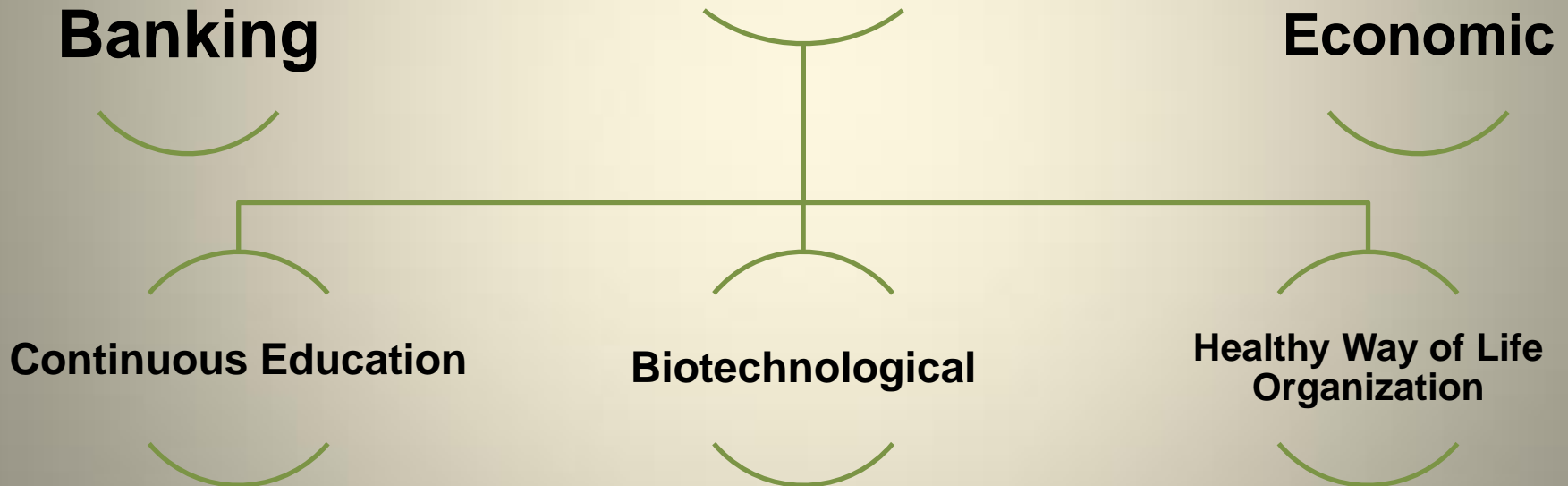
Pinsk on the map of Belarus

Web-site: psunbrb.by



University Structure

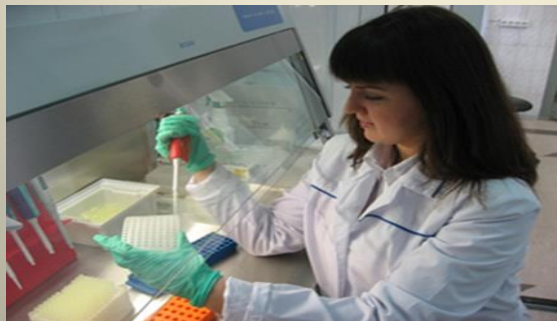
Faculties



The university provides training in 17 specialties - Bachelor degree
12 specialties – Master Degree and PhD courses

SCIENTIFIC AND RESEARCH LABORATORIES

- **Cell technologies in plant growing**
- **Applied and fundamental biotechnology**
- **Laboratory of longitudinal research**
- **Regional development and tourism**
- **Financial and banking engineering**
- **Technopark "Polessye"**



Main tasks of cluster creating



- creating research and technological platform for the cluster and world-class Scientific and Educational Center;
- creating innovative small and medium-sized enterprises;
- applying innovative technologies and creation of organic manufactures in the agrarian sector;
- development and diversification of production, geography, increase in export of high-tech products

CLUSTER PROFILES

Target groups

FARMERS AND AGRICULTURAL ENTERPRISES

FOOD ENTERPRISES

CONSUMERS OF FOOD PRODUCTS,
TOURIST AND EDUCATIONAL
SERVICES

SUPPORTERS OF HEALTHY
LIFE STYLE

OWNERS AND WORKERS OF
ESTABLISHED ENTERPRISES

REGIONAL AND REPUBLICAN
BUDGETS

GREEN ECONOMY
AND TOURISM

WATER
PURIFICATION
TECHNOLOGIES

HEALTHY WAY OF
LIFE
ORGANIZATION
TECHNOLOGIES

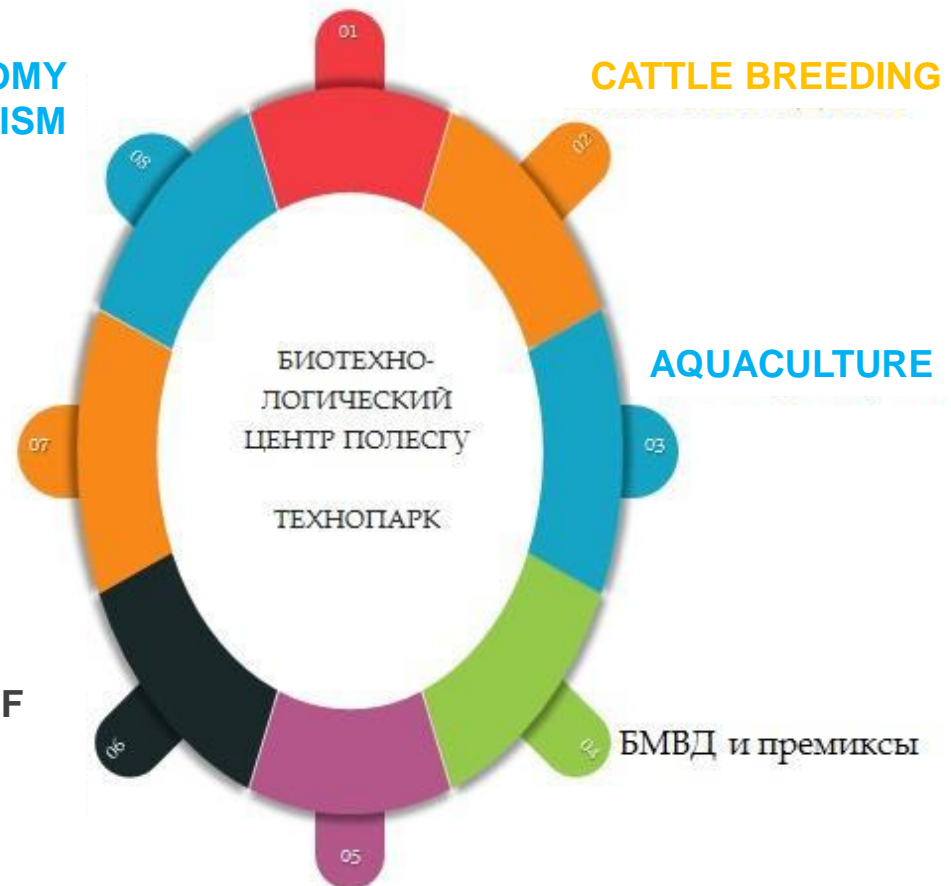
PLANT GROWING

CATTLE BREEDING

AQUACULTURE

БМВД и премиксы

BIOLOGICAL ACTIVE SUBSTANCES and BIO PREPARATIONS



CLUSTER PROFILES



1. PLANT GROWING
2. CATTLE BREEDING
3. AQUACULTURE
4. PROTEIN VITAMIN MINERAL PREMIXES
5. BIOLOGICAL ACTIVE SUBSTANCES AND BIO PREPARATIONS
6. HEALTHY WAY OF LIFE ORGANIZATION TECHNOLOGIES
7. WATER PURIFICATION TECHNOLOGIES
8. GREEN ECONOMY AND TOURISM

Elements of the infrastructure of innovative and industrial cluster in the field of Biotechnology and “green” economy



- Research laboratories of Polessky State University
 - Biotechnology Center
 - Scientific and technological park
 - “Technopark “Polessye”
 - Crowd investing platform
 - Start-up movement



Project implementers of innovative and industrial cluster in the field of Biotechnology and “green” economy



- Ministry of Economy
of the Republic of Belarus
- Brest Regional Executive Committee
 - Pinsk City Executive Committee
- Pinsk Regional Executive Committee
 - Polessky State University
 - Technopark Polessye LLC

Competitive advantages of the cluster



Multiprofile infrastructure

- The cluster includes 8 economic profiles - priority activities in the Polessye region.
- Between the members of the cluster profiles technological connections are established. At the same time within each profile a layer of a “green” economy is formed, represented by **organic production in crop production, livestock production, production for a healthy lifestyle, and biotechnology for protecting animals, plants and the environment.**

Competitive advantages of the cluster



Modular structure of profiles and incubation of new cluster members

- Each of the profiles is represented by identical modules, the number of which will increase as the commercialization of the project expands. The pilot profile module becomes a platform for demonstrating advantages over new potential participants.

Competitive advantages of the cluster



“Intellectualization” of newly created bio-enterprises as a new type of production: “smart factories”

3 stages of cluster profile development:

- *1. Optimization of existing technologies for production and use of bioproducts;*
- *2. Import substitution;*
- *3. Leadership in the domestic market and export.*

The idea of a smart plant implies the inclusion of interactive processes and IT diagnostics, selection of optimal recipes and monitoring the results of their application.

Competitive advantages of the cluster



Business models for commercializing projects for cluster profiles

- Business models are designed to create innovative high-tech enterprises of small and medium-sized businesses. During 2018-2022 it is planned to create 150 small and medium-sized enterprises, including: 9 smart plants, 8 laboratories, 37 farms, a Consulting center. The number of highly-qualified jobs to be created, primarily for the graduates of “Polessky State University” is 1500.

Competitive advantages of the cluster



Use of own research results as a technological platform

- The technological platform of the cluster profiles is based primarily on the own results of scientific research, both already completed (horizon 1) and planned – in the laboratories of Biotechnological center (horizon 2). In the cluster the applied scientific research of the first horizon has already been commercialized, and horizon two projects are being selected.
- An integral effect of the cluster is the creation of a world-class science and education center in the field of biotechnology, “green” economy and healthy lifestyle.

Competitive advantages of the cluster



Financing research and commercialization of projects by maximizing the funds of individuals and legal entities

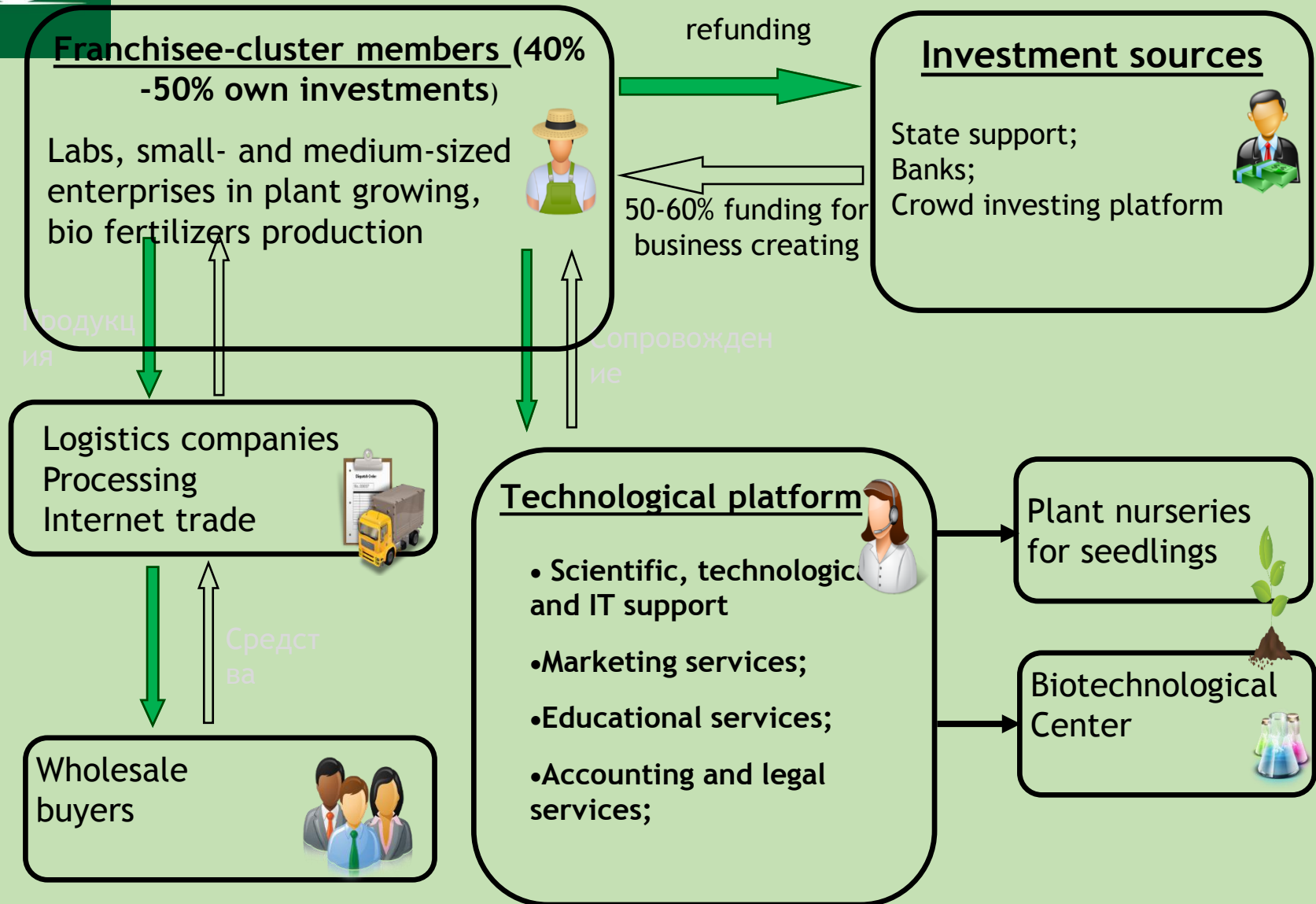
- It is envisaged to use crowdfunding as a new form of project financing for the Republic of Belarus. Creation of the regional investment platform will allow maximal expanding the range of investors and diversification of the forms of their participation in projects, both at the research stage and commercialization. A number of bioproduction enterprises will be created under the franchise of the Technopark Polesye at the expense of franchise funds (own or attracted). The flow of royalties will provide a source of coverage for the current costs of the technology platform.



- The implementation of the concept of the cluster opens the possibility of constructing new forms of interaction between **the tetrad “science” – “business” – “production” – “education”** to achieve leadership in the planned areas of biotechnology and “green” economy.



Profile 1. Plant growing – Commercialization Business Model



Business projects



- **Clarion catfish breeding**

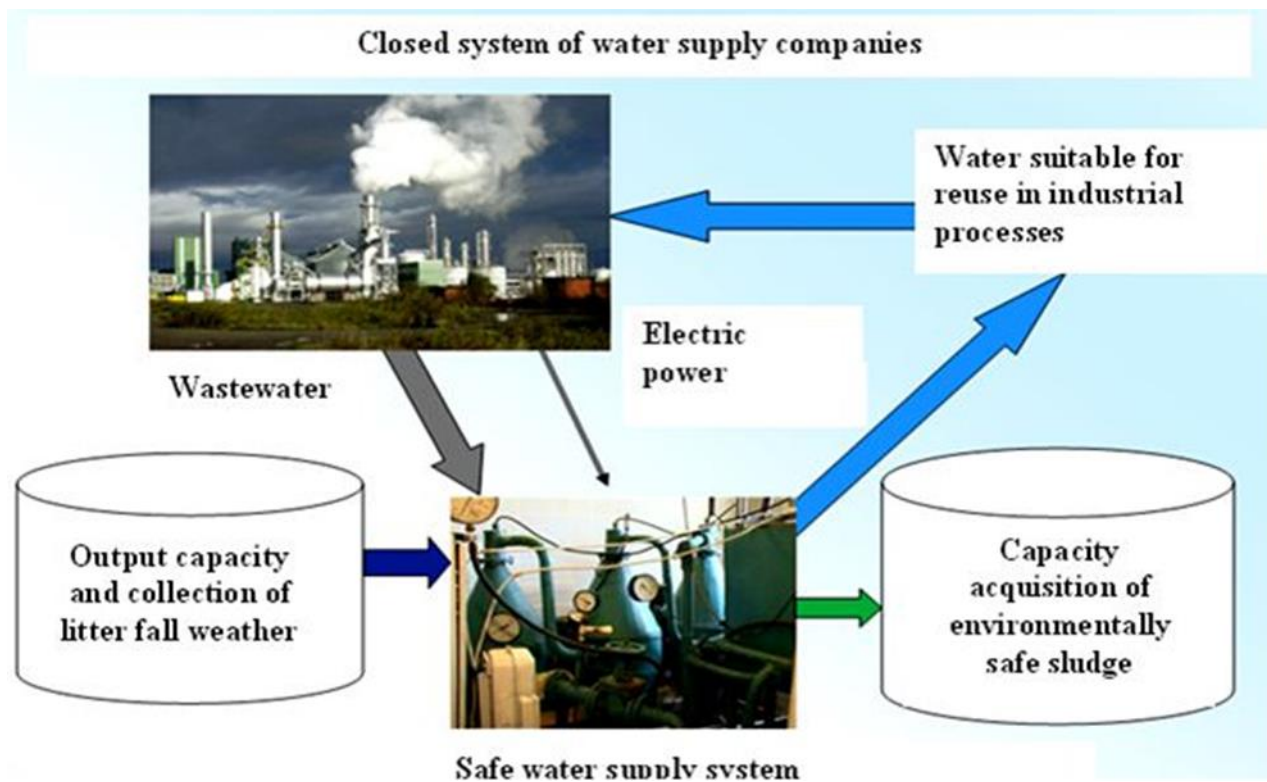


- **Micropropagation of plants**



- **Software support for cattle fodder recipes**

The SUW complex for water and wastewater treatment



RESULTS BY 2022



- Scientific and educational **Biotechnological Center**
- **150** commercial enterprises and laboratories in the segment of bio- and organic products, **1500** new highly-skilled jobs
- The volume of production is \$ **50.5 million** per year, import substitution and export of high technology bio and organic products to the countries of the EEU and the EU

Realization of the European project “Network for International Cooperation in Science, Technology and Innovation with Eastern Partnership Countries – PLUS”



- From December, 18 to December, 21, 2017 a working visit to Gdansk (Poland), Cluster “North-South” within the framework of the EU project “STI International Cooperation Network for EaP Countries Plus” (EaP PLUS) aimed at promotion of cooperation between scientists from the Eastern Partnership (EaP) countries and the European Union (EU) took place.
- Memorandum signing



BUSINESS FORUM



- On March, 12, 2018 Polessky State University met the delegation of the **representatives of Logistics and Transport Cluster “North-South”** (Gdansk, Poland).



BUSINESS FORUM



- **On March 13, 2018** in the framework of **Business Forum in Pinsk** the meeting of the founders of the **Innovative Industrial Cluster in the field of biotechnology and “green” economy** was held.



BUSINESS FORUM



- **The Cluster Initiative and the Agreement on Joint Activity were signed by 25 business entities including industrial enterprises, private farms and individual entrepreneurs of the Republic of Belarus and the Republic of Poland.**
- Scientific and technological park “Technopark Polessye” is defined as the organization of cluster development. The intellectual platform of the cluster is Polessky State University.



Polessky State University Cluster in the field of Biotechnology and “green” economy”



- Transport and Logistics Cluster “North South”
- OJSC “Agro Motol”
- “Agroferma”
- Farm “BERKLI”
- LLC “Biolodzhico-Company”
- Farm “Brusvyana”
- “Landbern Group”
- “Plantarum”
- OJSC “Pinsk Shipbuilding and Shiprepairing Plant”
- Farm “Polessky Yagodnik”
- “Selskaya Stolinshchina”
- Farm “Sinyaya Ptitsa”
- “Scientific and Technological park Polessye”
- OJSC “The Peat Company Glinka”
- Farm “FruktGolden”
- Farm “Yagzenda”
- Farm “Yagodnoye Lukoshko”
- Farm “Yagodny MIKS”
- BelYagDar
- Golden Berry
- Farm “Kuketi”
- Farm “Divokrai”
- Farm “Ustimchuk”
- “TSP-Plus”





- Polessky State University is complex scientific and education establishment with a number of scientific faculties. It has wide opportunities to elaborate and implement scientific projects to develop the region. It is very important to develop “green” technologies in Poland nowadays. We are eager to develop cooperation with Polessky State University. I think it is important to share our experience with Belarusian cluster. I am sure in future we will be able to develop new joint projects.

“North-South” Cluster

Chairman



Cluster members feedback



Joining Cluster helped us find new partners with whom we have already started fruitful cooperation. For me, this cluster is the opportunity for business communication with people engaged in similar business. It became much easier to resolve issues with the formation of the cluster. I hope that new sources of funding will appear, and not just state ones. In addition, it has become a tradition to organize seminars for organic farming and other issues for the cluster participants. So far I have seen only the pros.

Sinyaya Ptitsa



This cooperation is very perspective. We get scientific support from the University to develop our production. Students from the University can take practical training on the farm to get useful practical experience.

Biologzhico company



Cluster members feedback



The newly formed cluster in the field of Biotechnology and “green” economy is the largest cluster in Belarus today in terms of the number of participants. The cluster is still very young and must acquire necessary energy of growth. It has all the possibilities for it. It is also important that the participants in this cluster hope not only to expand the possibilities with the help of public financing, but also create their own financial instruments, in particular, crowd investing platform for financing new projects and expanding existing businesses.



Ministry of Economy of the Republic of Belarus

BUSINESS FORUM



- **On March, 14, 2018 representatives of Polish Cluster took part in Pinsk Invest Weekend-9 as experts.**



Realization of the European project “Network for International Cooperation in Science, Technology and Innovation with Eastern Partnership Countries – PLUS”



- Within the framework of the Concept of Innovative Industrial Cluster Development in the Field of Biotechnology and “green” economy a number of business events was held at Polessky State University: meeting of the Innovative Industrial Cluster Council, Pinsk Invest Weekend-10, and seminar for cluster participants.



PINSK INVEST WEEKEND

Realization of the European project “Network for International Cooperation in Science, Technology and Innovation with Eastern Partnership Countries – PLUS”



- On May 16-17, 2018 the delegation from the University of WSB (Gdansk, Poland) headed by the Rector Professor Wisniewski paid a working visit to Polessky State University. Within the framework of the visit the scientific seminar “The Potential of Economic Cooperation: Belarus-Poland” was held.
- On May 18, 2018 the delegation of the University of WSB took part in the anniversary Pinsk Invest Weekend.



Realization of the European project “Network for International Cooperation in Science, Technology and Innovation with Eastern Partnership Countries – PLUS”



- During the visit (June 2018) the delegation took part in the meeting of the “North-South” Cluster Council
- Representatives of Polessky State University participated in the scientific seminar “Belarusian-Polish relations. Socio-economic and research aspects of joint activities”, organized by the GSW (Gdańsk Higher School)



Realization of the European project “Network for International Cooperation in Science, Technology and Innovation with Eastern Partnership Countries – PLUS”



- Meeting with the professors of the WSB University, a member of the North-South cluster was held, at which organizational and legal aspects of the creation of **Joint Research Center**, as well as the implementation of the joint project “**Organizational and Economic Mechanism of Transboundary Cluster Formation**” were discussed.

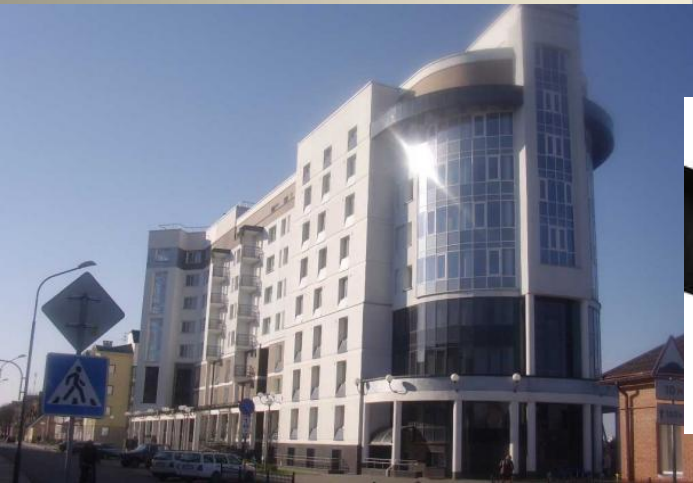


CHALLENGES

- Horizontal trust problem
- State funds attracting
- Crowd investing legislative framework



Polessky State University



Thank you for the attention!