



All Ukrainian Scientific-Educational Consortium



Institute of Food Resources

# THE ROLE OF AGRARIAN EDUCATION IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT OF UKRAINE FOR THE PERIOD BY 2030





**MAZUR**  
**Viktor**  
Rector  
Vinnytsia National Agrarian  
University, Professor



# GOALS OF SUSTAINABLE DEVELOPMENT

- **September 15, 2017** - The Government of Ukraine has presented a National Report «Goals of Sustainable Development: Ukraine», which sets the basic principles for achieving the Sustainable Development Goals
- The report presents the results of the adaptation of 17 global GSD, taking into account the specific nature of national development.
- **The Global Sustainable** Development Goals were proclaimed in 2015 at the United Nations Organization Summit on Sustainable Development. At the initiative of the Government of Ukraine and with the assistance of the United Nations Organisation in Ukraine, an open and inclusive process of adaptation of the GSD continued throughout the year. Taking into account the principle of "leave no one behind" and using a wide range of information, statistical and analytical materials, a national GSD system was developed (86 tasks and 172 indicators were realized to monitor their implementation).

- Sustainable Development Goals (GSD), which are now popular in all countries of the world, set their own development indicators and include 17 goals and 169 specific tasks. The GSD list was formally approved at the end of September 2015 by the UN General Assembly.
- In the basic directions of formation of Ukraine's sustainable development **section 4 of the Strategy** plays an important role. This document formulates new approaches to the provision of quality educational services and the formation of higher education on the basis of internationalization, academic mobility and innovation in order to closely integrate science and education in a single complex with the aim of creation of qualitative modernization institutions, real scientific and educational centers where students would receive not only basic theoretical knowledge, but also serious scientific training.

1.Overcoming poverty

2.Overcoming hunger,  
developing agriculture

3.Good health and well-being

4.Quality education

5.Gender equality

6.Clean water and  
proper sanitation

7.Clean and available  
energy

8.Decent work and  
economic growth

9.Industry, innovation  
and infrastructure

10.Reduction of inequality

11.Sustainable development of  
cities and communities

12.Responsible consumption and  
production

13.Climate change mitigation

14.Conservation of marine resources

15.Protection and restoration  
of land ecosystems

16.Peace, justice and  
strong institutions

17.Partnership for Sustainable  
Development



# 17 Global Goals of Sustainable Development

# PRINCIPLES OF DEVELOPMENT OF HIGHER EDUCATION IN UKRAINE

## The creation of European Higher Education Area (EHEA)



Development of  
external and internal  
quality assurance  
system of education  
based on ESG 2015



Implementation of  
lifelong learning



International and  
internal mobility of  
students and  
teachers



Academic virtue



Development of  
scientific and  
pedagogical  
skills of teachers



# SPECIAL ATTENTION IS GIVEN TO THE INTRODUCTION OF NEW INNOVATIVE APPROACHES IN STUDYING AND TEACHING



**Open learning technologies**



**Distance learning**



**Interdisciplinary educational programs**



**Support for institutional, national and European initiatives in education and professional development of teachers**



**Joining of education, science and innovation**



**Developing of skills in the digital world**



**Setting up of thematic advisory groups to help in:**



**Coordination of efforts of all stakeholders (employers, graduates, professional organizations, etc.)**

- **From the cycle system of higher education and the application of ECTS**
- **Compliance with the Lisbon Recognition Convention**
- **Quality assurance in accordance with ESG 2015**



# Mechanisms for providing quality assurance in higher education



**Formation of a qualitative contingent of students**



**New models of specialist training**



**Providing of modern education content**



**Improvement of the system of scientific certification**



**Functioning of internal and external education quality assurance system**

**THE MAIN CROSS-CUTTING LINE IS ACADEMIC INTEGRITY**



# MECHANISMS OF HARMONIZATION OF HIGHER EDUCATION IN THE SYSTEM OF SUSTAINABLE DEVELOPMENT OF UKRAINE 2030

## Link with the labor market – as a tool to ensure the quality of education



**Sectoral qualifications framework**



**Professional standards (harmonization with educational standards)**



**Qualification centers**



**Independent accreditation agencies**

## Wide autonomy of universities – as a motivation to ensure the quality of education



**Effective mechanisms of financial autonomy of Institutions**



**Financial support for research in higher education**



**The development of academic autonomy**



**Property autonomy**



# STRATEGIC GOALS FOR THE DEVELOPMENT OF HIGHER EDUCATION IN UKRAINE BEYOND 2020

## The development of the EHEA after 2020

- Intensification of international and interdisciplinary cooperation**  **Further synergy between the EHEA and the European Research Area**
- Innovative approaches in studying and teaching**  **The role of universities in promoting sustainable development**
- Development of international cooperation, mobility, joint educational programs**  **Collaboration with other regions and international organizations**
- Implementation of EU initiative to create**  **Participation in the dismantling of the UNESCO Global Convention on the**

# THE STRATEGIC GOALS OF DEVELOPMENT OF THE AGRARIAN SECTOR OF UKRAINE ARE:

- guaranteeing of the food security of the state;
  - ensuring of predictability of development and long-term sustainability of the agricultural sector through the development of various forms of management;
  - promoting the development of rural settlements and the formation of the middle class in the countryside by providing employment to the rural population and raising the level of income;
  - increasing of the level of investment attractiveness of agricultural sectors and financial security of agricultural enterprises;
  - improving the competitiveness of domestic agricultural products, the efficiency of industries, ensuring of the stability of markets;
  - expanding Ukraine's involvement in providing the world market with agricultural products;
  - rational use of agricultural land and reduction of the anthropogenic load of the agricultural sector on the environment;
  - **improving of the system of higher agrarian education in accordance with the requirements of a single European space.**
- 

**Vinnitsia National Agrarian University**  
legal entity  
Vinnitsia, Soniachna str. 3

**Institute of Food  
Resources of NAAS**  
Ukraine, Kiev, 02060,  
st. Raskovoy, of. 317, 4-a

*Cofounder*

**Consortium**  
«All Ukrainian Scientific-  
Educational Consortium»  
legal entity

*Cofounder*

**Institute of Bioenergy  
Crops and Sugar  
Beets of NAAS**  
legal entity,  
Kyiv,  
Klinichna, 25

SEPARATED  
STRUCTURAL  
UNITS

**Verhivskyyi Agricultural College**  
Vinnitsia region, Verhivka village

**Cherniatyn College**  
Vinnitsia region, Cherniatyn village

**Mogylyv-Podilskiy Technology and Economics College**  
Vinnitsia region, Mogylyv-Podilskiy

**Nemirovskiy College of Construction, Economics and  
Design** Vinnitsia region, Nemiriv

**Ladyzhyn Agricultural College**  
Vinnitsia region, Ladyzhyn

**Technology-Industrial College of VNAU**  
Vinnitsia, Youth Prospect, 8

**Educational production and research farm  
"Agronomichne"**

**Drogobych Center of Complex Design**  
Lviv region, Drogobych

**Biloseckivska experimental selection station**  
Judicial person (State ownership)  
Kyiv region, Biloseckivskiy district, Mala Vilshanka bystr., 1

**Veselopodilskia experimental selection station**  
Judicial person (State ownership)  
Poltava region, Semenivska district, Vemivka bystr.

**Ivanivska experimental selection station**  
Judicial person (State ownership)  
Sumy region, Okhtyrka district, Soniachne village

**Uladovo-Lyulynetska experimental selection station**  
Judicial person (State ownership)  
Vinnitsia region, Kalynivska district, Uladivka village

**Yaltushkivska experimental selection station**  
Judicial person (State ownership)  
Vinnitsia region, Barskyyi district, Chernedheve village

**State Enterprise "Research enterprise "Ozerna"**  
Judicial person (State ownership)  
Kyiv region, Vasylivska district, Hrebivky village

**State Enterprise "Research Farm "Shevchenkivska"**  
Judicial person (State ownership)  
Kyiv region, Tetlivska district, Derzhivka village



In 2019, the Consortium includes 81 Doctors of Sciences, 396 Candidates of Sciences, about 15,000 students in 48 specialties, 74 educational programs for training of junior specialists, bachelors, masters. 25 specialties for the training of doctors of philosophy, 13 specialties for obtaining candidate and doctoral degrees, 11 professional journals, 52 branches of university departments in experimental farms and breeding stations, 12 mutual scientific projects, the International Youth Agrarian Forum, more than 18 traditional annual international conferences on the issues of food, environmental, energy and economic security of the world, round tables on agrarian topics, e.t.c.



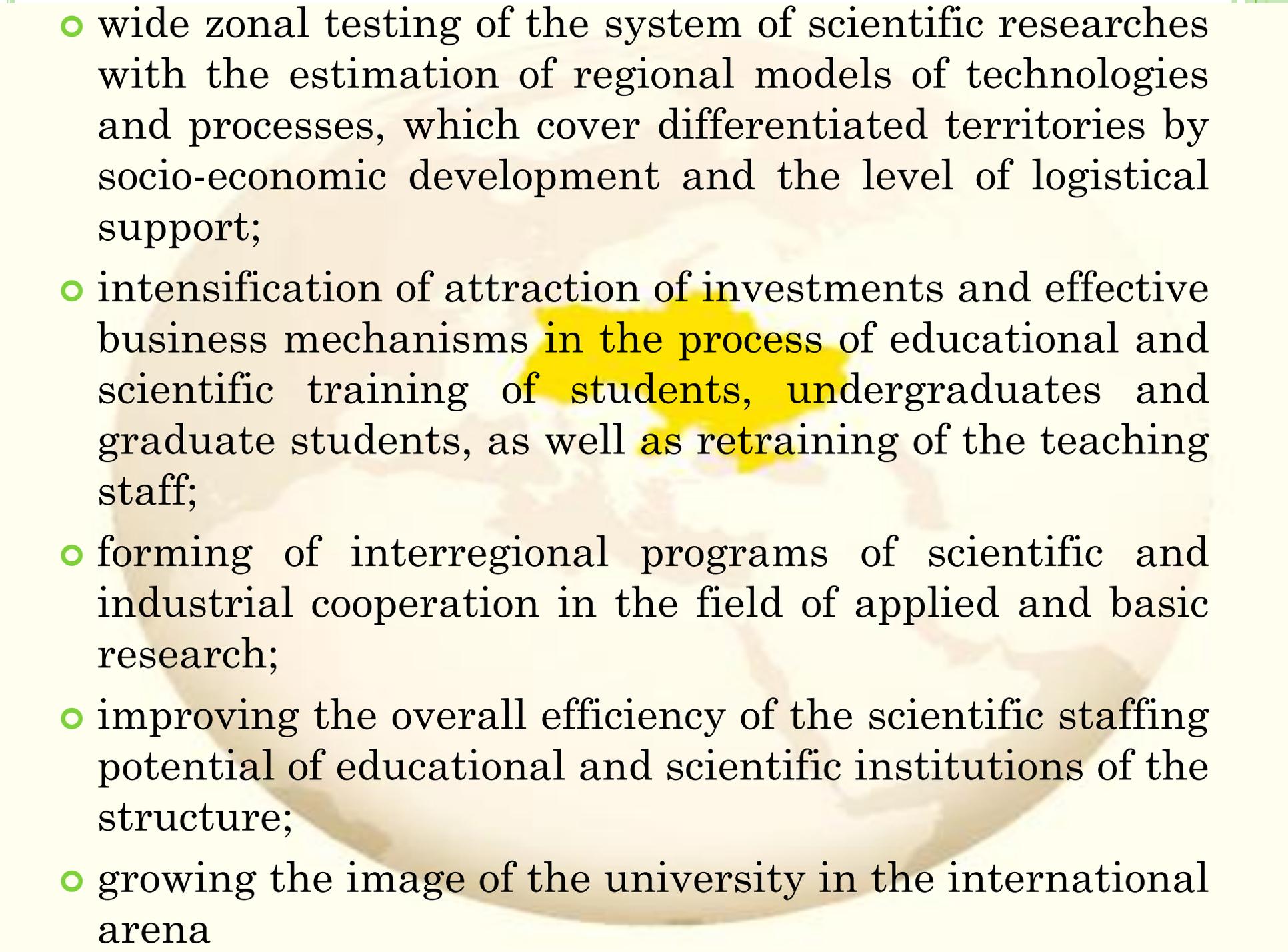
# THE MAIN PURPOSE OF THE CONSORTIUM IS

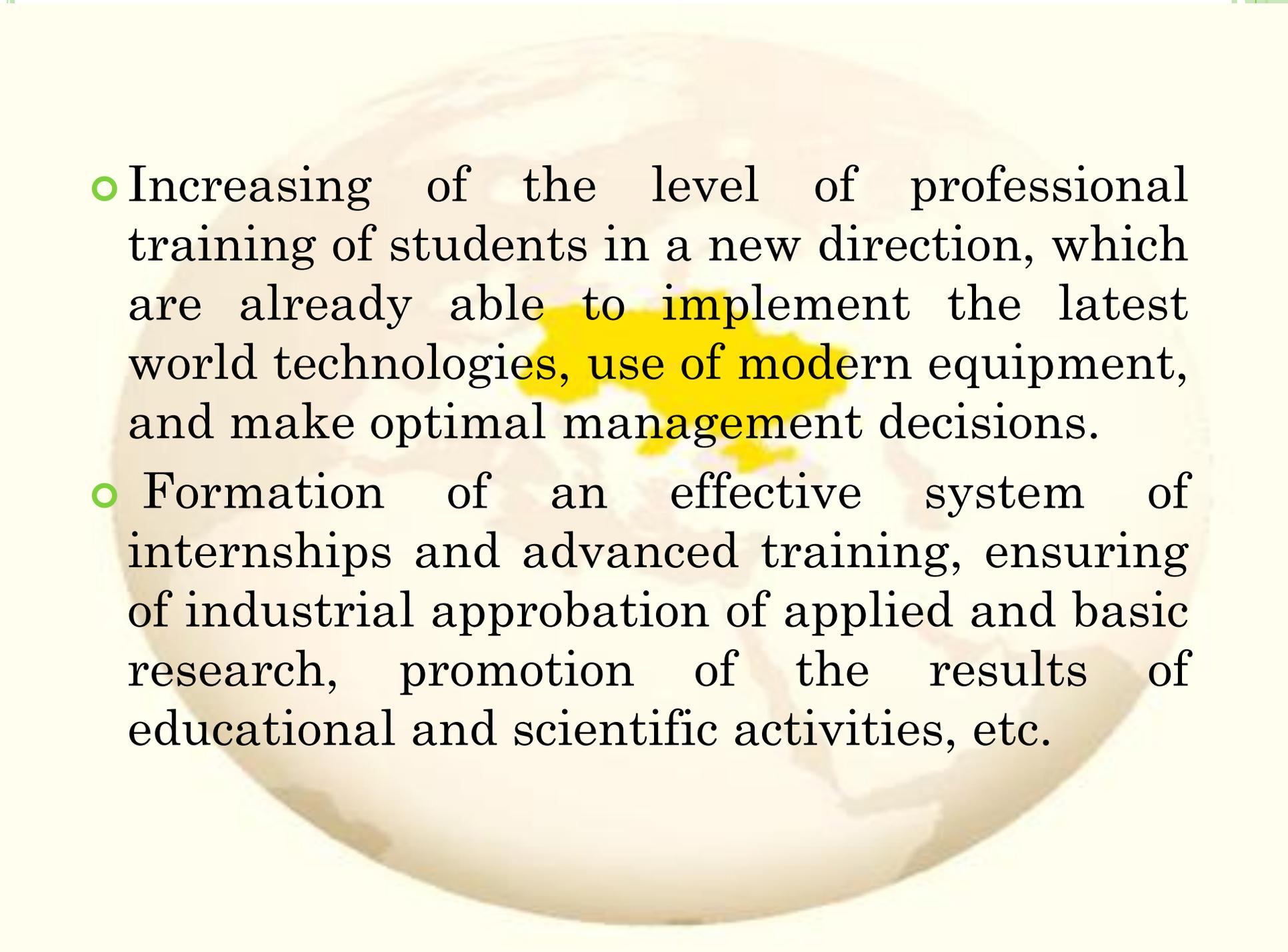
:

- Formation of a modern effective system of training, retraining and advanced training of specialists with higher education for the agricultural sector based on the integration and joint activity of the scientific, educational, innovative and technological potential of the Consortium founders' teams by generalization and dissemination of advanced scientific developments; creation and implementation of new learning technologies based on national and world experience; organization of postgraduate training of specialists and preparation and advanced training of scientific, scientific-pedagogical and pedagogical staff.

# WHAT ALLOWED THE CONSORTIUM TO BE CREATED:

- unified coordination of its founders' activities to increase the efficiency of basic scientific research; organization, implementation and coordination of applied scientific research in the sphere of agro-industrial complex of Ukraine on a wide range of issues of adaptive technologies of cultivation and production of market-forming agricultural crops; research on bioenergy, ecological development of rural areas, management, engineering, machine and tractor technology etc.
- joint use of the research toolbox of the Consortium structures with the involvement of electronic sources of research and library data;

- 
- wide zonal testing of the system of scientific researches with the estimation of regional models of technologies and processes, which cover differentiated territories by socio-economic development and the level of logistical support;
  - intensification of attraction of investments and effective business mechanisms in the process of educational and scientific training of students, undergraduates and graduate students, as well as retraining of the teaching staff;
  - forming of interregional programs of scientific and industrial cooperation in the field of applied and basic research;
  - improving the overall efficiency of the scientific staffing potential of educational and scientific institutions of the structure;
  - growing the image of the university in the international arena

- 
- Increasing of the level of professional training of students in a new direction, which are already able to implement the latest world technologies, use of modern equipment, and make optimal management decisions.
  - Formation of an effective system of internships and advanced training, ensuring of industrial approbation of applied and basic research, promotion of the results of educational and scientific activities, etc.



## **The main scientific areas of the Consortium's work are:**

- stimulating the development of adapted technologies for growing bioenergy crops and sugar beets;
- economic efficiency of production and consumption of biofuels in Ukraine;
- development of new energy-efficient, resource-saving technologies in plant and animal husbandry; creation and implementation of high-performance and energy-saving machine-tractor units;
- development of environmentally friendly (organic) technologies for growing basic agricultural products in accordance with international programs for the production of environmentally friendly, organic products;
- development of scientific and applied bases of transformation of organizational and economic relations to socially oriented market conditions in the agro-industrial complex;
- development of ways of using bacterial, enzymatic and bioactive feed additives in the feeding of agricultural animals, development of formulas for meat, dairy products for baby, diet and medical nutrition, development of technology for the production of dry pectin using ultrasonic energy,
- development of methods of mechanical processing of agricultural raw materials under the influence of vibration and others.

# The main scientific areas of the Consortium's work

stimulating the development of adapted technologies for the cultivation of bioenergetic crops and sugar beets



economic efficiency of biofuel production and consumption in Ukraine



**the development of new energy-efficient, resource-saving technologies in crop and livestock production**



**creation and introduction of high-performance and economical machine-tractor equipment**



**the development of methods of using bacterial, enzyme and bioactive feed additives in feeding farm animals, the development of meat and dairy semi-finished products for children, diet and medical nutrition**





**the development of ecologically safe (organic) technologies of cultivation of main agricultural crops in accordance with international programs for obtaining environmentally safe, organic products**



# development of methods of mechanical processing of agricultural raw materials with the help of vibration

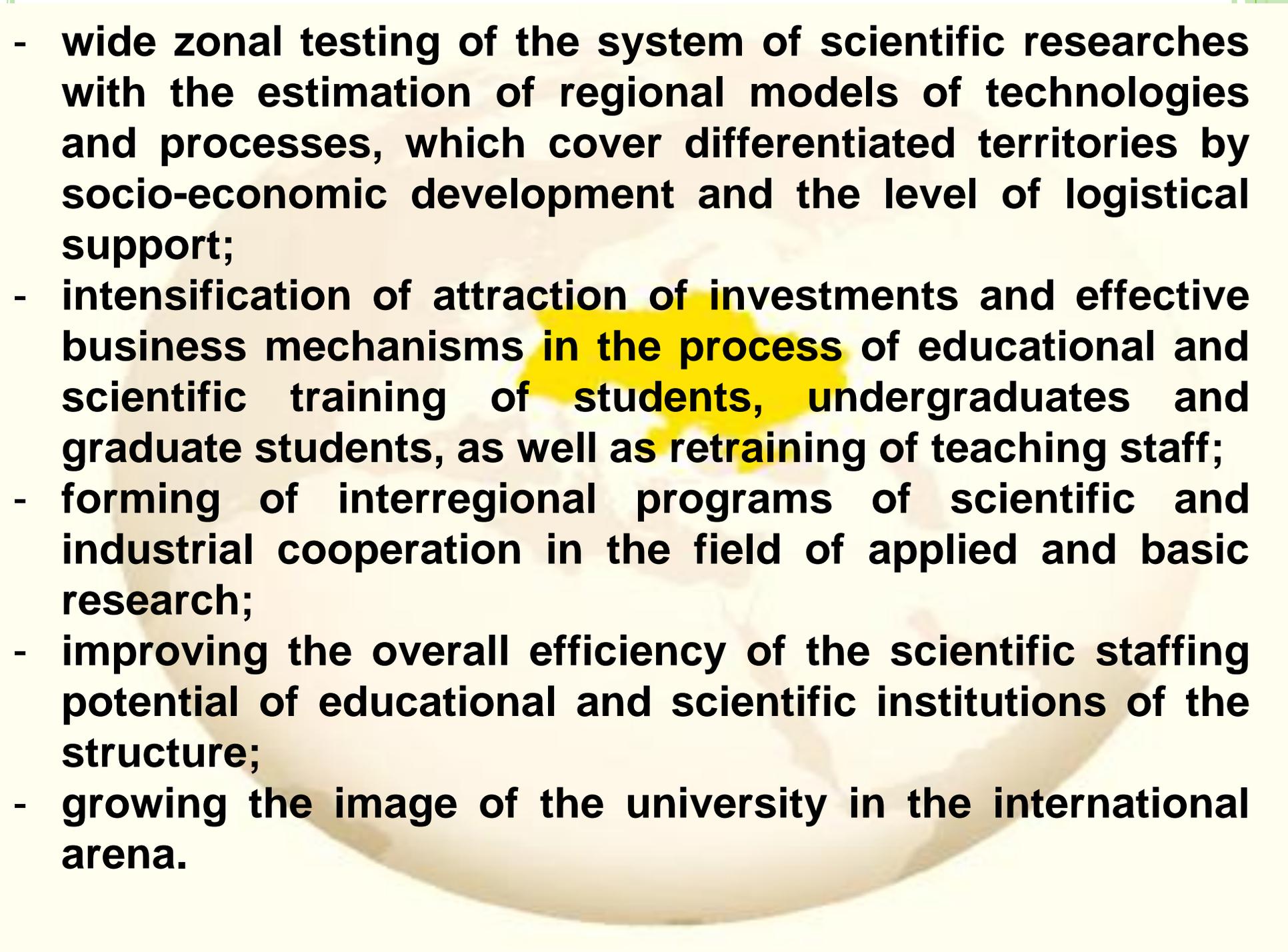


# The International School of Biofuels with the aim of studying the best experience in the production and use of renewable energy sources in the USA, France, Germany, China



## **The Consortium helps to create:**

- **unified coordination of its founders' activities to increase the efficiency of basic scientific research, organization, implementation and coordination of applied scientific research in the sphere of agro-industrial complex of Ukraine on a wide range of issues of adaptive technologies of cultivation and production of market-forming agricultural crops, research on bioenergy, ecological development of rural areas, management, engineering and machine and tractor technology etc.**
- **joint use of the research toolbox of the Consortium structures with the involvement of electronic sources of research and library data;**

- 
- wide zonal testing of the system of scientific researches with the estimation of regional models of technologies and processes, which cover differentiated territories by socio-economic development and the level of logistical support;
  - intensification of attraction of investments and effective business mechanisms in the process of educational and scientific training of students, undergraduates and graduate students, as well as retraining of teaching staff;
  - forming of interregional programs of scientific and industrial cooperation in the field of applied and basic research;
  - improving the overall efficiency of the scientific staffing potential of educational and scientific institutions of the structure;
  - growing the image of the university in the international arena.

An extremely important aspect of the Consortium's activity is the increase of the level of professional training of students in a new direction, which are already able to implement the latest world technologies, make optimal management decisions that minimize the risks of international cooperation in industry and business.







Today, the All-Ukrainian Scientific and Educational Consortium is a smithy for the plant, horticulture, vegetable, livestock, aquaculture, machine-building, forestry, food and processing industries of Ukraine.

Practical training of students in the Consortium is another advantage of such an association of educational, scientific and breeding establishments in structural units in which students are active participants in scientific research, breeding work, research production.



Today it is already a full-fledged Pilot Project of the Consortium supported by the Ministry of Education and Science of Ukraine. The peculiarity of the project is that the collective farms and peasant farms are formed from representatives of different faculties: economics, management, agronomy, technological and law.



# THE FORMATION OF SCIENTIFIC KNOWLEDGE IN THEORETICAL PREPARATION



Classical Lectures  
50%

Practical training

Problematic  
scientific lectures  
20%

Scientific  
investigations of  
Consortium

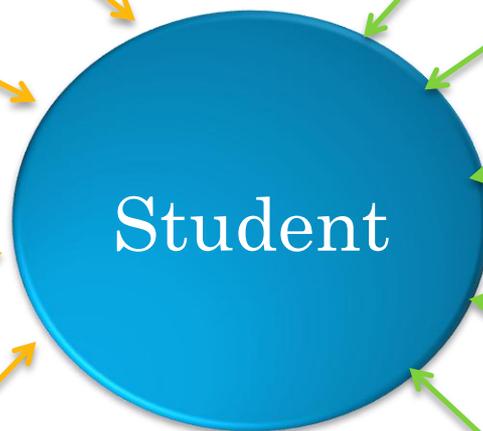
Lectures on the  
foreign languages  
20%

Internet resources

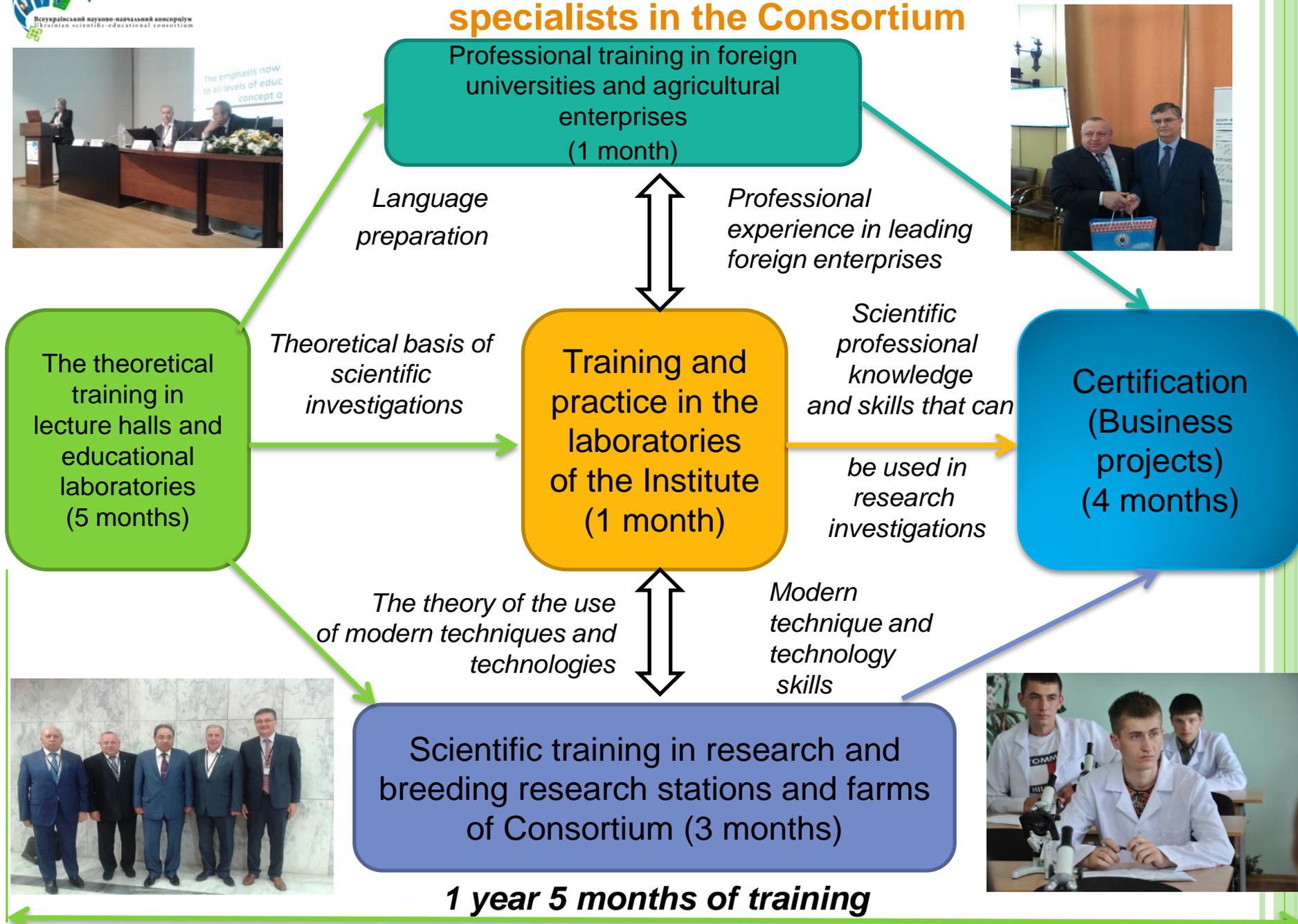
Scientific editions  
of the repository of  
Consortium

Themes for self  
learning  
10%

Textbooks,  
scientific articles



# Structure of Master programs of preparation of the specialists in the Consortium



# TYPICAL FEATURES OF THE GRADUATE OF THE CONSORTIUM

training according to the modern curriculum, adapted to the requirements of agribusiness

has professional experience of global and European level

provides high economic efficiency by making his own management decisions

is able to organize his own business or enterprise

freely uses the legal base of professional activities

is fluent in one of the foreign languages

uses in practice and is able to give qualified advices of legal regulation and legal characteristics of the individual types of economic activity

has good knowledge of IT products

can create a business plan of professional activity on the basis of innovation developments and modern technology

*young specialist*



**The main results of the modernized agrarian system on the basis of the Vinnytsia National Agrarian University in the model and functioning of the Consortium:**

**Participation in rooftop programs under Horizon 2020 : «Sustainable exploitation of biomass for bioenergy from marginal lands in Europe» (SEEMLA), Horizon 2020 program. The main objectives of the SEEMLA project are: Developing of strategies and policy recommendations to promote sustainable use of marginal land for bioenergy at regional and EU level.**

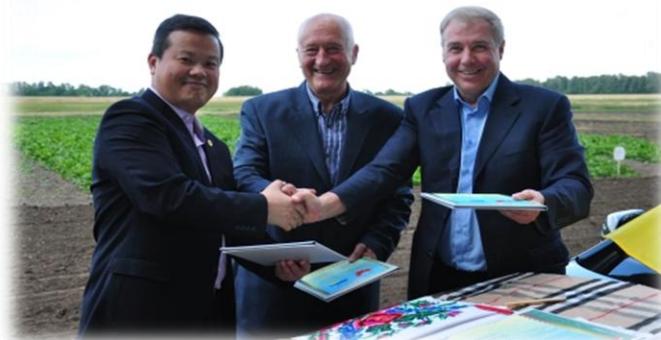
**EU research project "MAGIC" «Marginal lands for Growing Industrial Crops: Turning a burden into an opportunity»:The 4-year project is aimed at promoting the sustainable development of resource-saving and cost-effective industrial crops grown on marginal lands.**

- the increase of the total publication activity of scientific and pedagogical works in international scientific and metric bases, more than 2 times;
- increase in the number of state and household topics more than 2.5 times
- forming end-to-end curricula and postgraduate training plans on the basis of an effective block of scientific and practical training and formation of a block of disciplines at the student's choice;
- formation of a lecture course on basic disciplines of preparation according to the scheme development-production-lecture-student;
- 20 scientific and technological innovations ready for business implementation.
- conducting of planned scientific events with the involvement of regional administration and business structures (34 international and 14 nationwide level), in particular the most important of them: International Scientific and Practical Conference of Young Scientists and Students “Problems and Prospects of Innovative Development of the Agricultural Sector of Economy in the Conditions of Integration Processes” , scientific-practical conference "Current status and prospects of economic development in the context of globalization processes", International scientific conference of youth "Innovations in modern agronomy," International scientific conference "Innovative technologies in animal husbandry and food industry";

- Obtaining from state grants in the field of development of innovative teaching methods, business plans for start-ups, regional development programs and self-government in rural areas;**
- Participation in joint Ukrainian-Indian, Ukrainian-Lithuanian and Ukrainian-Polish projects based on the Consortium's developments with the expansion of the total number of international partner countries to 50 with annual visits of more than 40 foreign delegations of the institution;**
- Overall increase in the number of international internships extends its geography to 15 countries, including the USA, Slovakia, France, Sweden, Germany, China, Russia, Poland, South Africa, Albania, Georgia, Montenegro and others;**
- Development of more than 30 start-up projects on hydroponics, greenhouse culture, fisheries, horticulture, beekeeping, crop production, vibration technologies and hydraulics, accounting systems, management and ergonomics of production and consumption of alternative fuels, modern approaches to rural areas management marketing, etc., as well as over 40 business plans for model farm students as close as possible to the production structure, etc.**

○ International cooperation with foreign partners is a prerequisite for dynamic development, enhancing the image of the Consortium, integration into the world of educational and scientific space. We have established an active educational and practical cooperation with 50 universities from 15 countries.

○ The Consortium is visited by more than 50 foreign delegations annually.







**Kansas State University, USA**

## Countries and universities-partners of the Consortium



**Pennsylvania State University, USA**



**State University Dickinson, USA**



**Scientific Centre**

**National Academy of Sciences of Belarus**



**Polytechnic University of Tirana, Albania**



**Higher School of International Relations and Public Communication in Helm, Poland**



**Jomo Kenyatta University Agriculture and Technology, Kenya**



**Lithuania Business University of applied sciences**



**University of Latvia**



**Poznan agricultural University, Poland**



**Warsaw agricultural University, Poland**



**Academy of Agricultural Science of Georgia**



**Slovak Agricultural University in Nitra, Slovakia**



**Grodno State Agrarian University, Belarus**



**Kazan State Academy Veterinary Medicine. M. Bauman, Tatarstan**



**University "Ovidius" in Constanta, Romania**



**German Agricultural Center**



**Transport and Telecommunication Institute**



As a result, I would like to point out that Ukraine has sufficient educational and scientific potential to integrate effectively its agrarian higher education into European and world space, and that Ukraine's sustainable development is not possible without such successful implementation in the future. For this reason, the experience of Vinnytsia National Agrarian University is an effective step towards a modern education reform strategy and is in line with current global trends.

Thank you!

