



NATIONAL AGENCY
OF INVESTMENT
AND PRIVATIZATION

REPUBLIC OF BELARUS

INVESTMENT OPPORTUNITY

CREATION, DEVELOPMENT AND APPLICATION OF DIGITAL
AGRICULTURE TECHNOLOGIES IN BELARUS

REPUBLIC OF BELARUS

Business Environment

EURASIAN ECONOMIC UNIT



512 mln
consumers

EAEU



183 mln consumers in the EEU

10 mln consumers in Belarus

INVESTMENT LEGISLATION

70 agreements on
avoidance of double
taxation

**The Republic of Belarus is a member of
the Multilateral Agency for Guarantees
and Investments**

66 agreements on assistance
in the mutual protection of
investments

Law on investment

- 1.** Protection against nationalization
- 2.** Unhindered transfer of profit (income) abroad
- 3.** Equality and non-discrimination of investors

VISA REGIME

In 2018, Belarus extended the visa-free stay for foreigners to 30 days. Visa-free visits are provided on condition of the entrance through the National Airport Minsk for citizens of 74 countries, including European countries, as well as Brazil, Indonesia, the United States, Japan and other countries.



ABOUT THE PROJECT

THE INVESTMENT PROJECT AIMED AT CREATION, DEVELOPMENT AND FURTHER APPLICATION OF DIGITAL AGRICULTURE TECHNOLOGIES ON THE TERRITORY OF THE REPUBLIC OF BELARUS, AS WELL AS DISTRIBUTION OF THESE DEVELOPMENTS TO THE TERRITORY OF NEIGHBORING COUNTRIES.

PROJECT DESCRIPTION

The project's implementation involves development, integration and application of agricultural robots that use Internet technologies (telemetry, geo-information systems, differentiated fertilization technologies, "AIoT" platforms and applications) for agricultural work, as well as other types of products in the field of digital agriculture.

ABOUT THE PRODUCT

Agricultural robots (agrobots) – these are automatic machines (mechanisms) used for agricultural purposes to perform certain operations.

ADVANTAGES OF APPLICATION



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|--|---|
| <ul style="list-style-type: none"> - Efficient use of fertilizers, water, fuel and other resources - Improving quantity and quality of products - Higher yields on the same areas (10-20 %) | <ul style="list-style-type: none"> - Reducing the negative impact on the environment - Reducing financial costs and losses - Rising profit |
|--|---|

ADVANTAGES OF THE PROJECT IMPLEMENTATION:

- ✓ Availability of qualified labor resources (possibility of attracting specialists from the National Academy of Sciences of the Republic of Belarus, High-tech Park and "Gorki" Tech Park for implementation of the project);
- ✓ Guaranteed sales market on the territory of the Republic of Belarus and abroad (the Belarusian agricultural sector lags far behind developed countries in the application of digital technologies in agriculture. Agricultural productivity in our country is 3-5 times lower than in the United States and Western Europe);
- ✓ Benefits and preferences at implementation of the investment project (possibility to implement the project within preferential regimes of "High Tech Park" or "Great Stone" Industrial Park);
- ✓ Possibility of partial financing of the investment project implementation by using resources of "Belarusian innovation Fund" under the State Committee for Science and Technology of the Republic of Belarus;
- ✓ Possibility of further production expansion (Ministry of Industry's enterprises can provide assistance at the implementation of the investment project);
- ✓ Increasing the attractiveness of the digital agriculture industry for investors, entrepreneurs and employees;
- ✓ Development of new and highly competitive professions in Belarus: "Big Data", "Data Science", "Machine learning", "Artificial Intelligence";
- ✓ Development of new electronic ("e-commerce") platforms in agriculture (both for sale of food products as well as raw materials for agricultural production).



THE PROJECT IN NUMBERS

THE PROJECT'S COST

The cost of the project implementation will depend on the chosen direction of development in the field of digital agriculture.

INVESTOR'S PARTICIPATION

Setting up of a new company or implementation of the project together with a local partner.

AREAS OF DEVELOPMENT IN THE FIELD OF DIGITAL AGRICULTURE

- Crop mapping systems ;
- Telemetry systems;
- Geographical information systems;
- Technologies of differentiated application of fertilizers;
- Agricultural robots;
- Automated systems of crops vegetation;
- "AloT" platforms and applications.



MAIN CONSUMERS

Domestic market:

Professional market - selling to public and private agricultural enterprises in Belarus (greenhouses and vegetable farms, dairy and pig farms, forestry enterprises with a large volume of forest plantations, etc.).

Private market - retail, selling to large private agricultural farms, as well as to individuals.

Foreign market:

Products in the field of digital agriculture are in demand in the United States, Canada, EU countries (Germany, Spain, France, England, Italy, Poland), as well as CIS countries (Russia, Kazakhstan, Azerbaijan, Armenia, Uzbekistan and others).

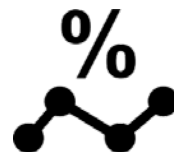
DISTRIBUTION OF SALES BY MAJOR REGIONS

CIS countries – 80%

Belarus – 20 %

EU countries – 10 %

Others countries – 10%



POSSIBLE AREAS OF DEVELOPMENT

IN THE FIELD OF DIGITAL AGRICULTURE

CROP MAPPING SYSTEMS

Such systems are installed on harvesters and other equipment, which allows determining as well as recording the amount of collected products. As a result, a client receives crop cartograms that help identify the heterogeneity of the crop level within the single field.

TELEMETRY SYSTEMS

Allow improving the results of agricultural machinery, reduce the material and time costs for the organization of work control, as well as the collection, processing and analysis of data on the progress of technological processes.

GEOGRAPHICAL INFORMATION SYSTEMS

Allow to integrate, maintain and jointly analyze a variety of spatially distributed indicators and descriptive data. These systems are used to create and maintain land cadaster, as well as water objects and property registers, environmental and weather monitoring, emergency management, production risk assessment, and other parameters that affect crop yields.

AGRICULTURAL ROBOTS

There are three main directions of using robots in the agricultural sector:

- Self-driving vehicles and drones;
- Automated systems for crops vegetation;
- Automated dairy farm management systems.

TECHNOLOGIES OF DIFFERENTIATED APPLICATION OF FERTILIZERS

Used to determine the necessary amount of fertilizers application. To do this, samples are taken at each site, the results are analyzed, field maps are made and tasks for equipment in the field are determined. This involves satellite navigation and specialized programs for remote control of equipment.

«AIOT» PLATFORMS AND APPLICATIONS

“AIoT” platforms and applications allow to automate the whole cycle of agricultural operations for growing plants or animals. Required components of such solutions are: sensors, probes, communication channels, “AIoT” platforms and applications.

DIGITAL AGRICULTURE MARKET OVERVIEW

GLOBAL TRENDS

According to “Gartner” analysts’ data, the overall economic effect in the case of integration of the Internet of things in all sectors of the economy on a global scale will be **1.9 trillion** USD by 2020. Agriculture shares 4 %, i.e. approximately **76 billion** USD. The integration of “artificial intelligence” technologies in agriculture is currently growing by **22.5 %** per year.

Analytical company “BI Intelligence” forecasts that the number of “IoT” devices used in agriculture will grow up to **75 million** units by 2020. It is also expected that by 2050 “smart” farms will produce **4.1 million** measurements daily, compared to 190.000 in 2014.

According to research of “Global Market Insights”, the market of agricultural drones will grow up to **1 billion** USD by 2024, although it was estimated at 338 million USD in 2016.

According to “GoldmanSachs” analysts’ data, the total growth of crop productivity due to integration of digital agriculture solutions can grow by 70% and earns **800 billion** USD of additional production by 2050. The market of precision farming will earn **240 billion** USD in 2050 for manufacturers and developers. These solutions include: solutions for precise planting, fertilization, irrigation, spraying, field monitoring and data analysis of small agricultural machinery, including autonomous ones.

RUSSIAN FEDERATION

At the present moment development of agricultural sector lags far behind developed countries. Labor productivity is 3-5 times lower than in the United States and Western Europe due to insufficient application of smart solutions in the agriculture industry. Despite the huge acreage, which is about 80 million hectares, digital technologies use only in 5-10 % of the territories.

The market of digital technologies in agriculture sector currently evaluates approximately in **5.6 billion** USD and by 2026, in accordance with the forecasts, projected to grow at least **5 times** - including through support for agricultural start-ups.

According to the joint research of the global agricultural technology market by companies “Finistere Ventures” and “Pitchbook”, over the three quarters of 2018 more than **1.6 billion** USD was invested in agricultural start-ups in 209 transactions.

BELARUS

The country has developed and implemented numbers of automated information systems in various areas from crop and livestock production to accounting and maintenance of machinery and equipment.

According to the calculations of the Ministry of agriculture, integration of the precision farming system will help to reduce fuel consumption and expenses of nitrogen fertilizers by **20 %**, and cost of processing land by wide – cut aggregates by **15 %**.

NATIONAL AGENCY OF INVESTMENT AND PRIVATIZATION

The Agency is ready to help foreign investors interested in doing business in Belarus:

- Presentation of information on investment opportunities, preferential regimes and benefits, industries, legislation
- Provision of current information on investment projects
- Selection and provision of information on options for land and premises
- Search for potential partners for the implementation of the investment project; organization of meetings, negotiations with potential partners to establish cooperation
- Providing a platform for negotiations and support for the investor during the negotiations
- Organization of visits to the Republic of Belarus (development of a program of stay, assistance in obtaining a visa)
- Representing the interests of the investor in negotiations with government officials on the implementation of investment projects, as well as on improving business practices in the Republic of Belarus
- Post investment support



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