4.1. AGRIFOOD SECTOR

4.1.1. Current situation and the sector role

ROLE OF THE AGRIFOOD SECTOR IN THE ECONOMY OF UKRAINE AND GLOBAL FOOD SECURITY

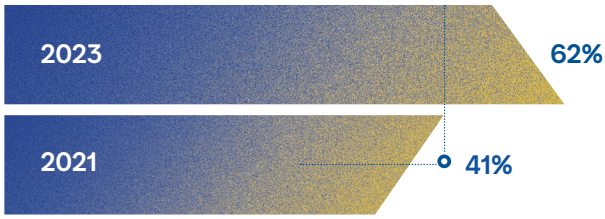
Ukraine is one of the guarantors of food security in the world, contributing to the global food market with the capacity to feed about 400 million people.[1] Before Russia's invasion, Ukraine supplied 50% of the grain stock of the UN World Food Program, the largest humanitarian organisation in the world.

The agrifood sector plays a key role in Ukraine's economy.

In 2021, agriculture represented

10.9 % of Ukraine's GDP[2]	**2.7** million people employed	**~ 17%** the total labour force[3]

As of 2022, the share of the agro-industrial complex in Ukraine decreased to 8.2%. In 2023, the projected number of people employed in agricultural sector decreased by 22%[4] and amounted to 2.1 million workers. The agrifood sector has shown much resilience, remaining a powerful component of the country's exports. **In 2023, the share of agri-food products in the total exports of Ukraine increased to 62% compared to 41% in 2021.**



After the full-scale invasion, more agricultural export products, particularly wheat and corn, were directed to or through Europe.

Figure 1: Share of Ukrainian wheat exports (%) by region 2021-2023

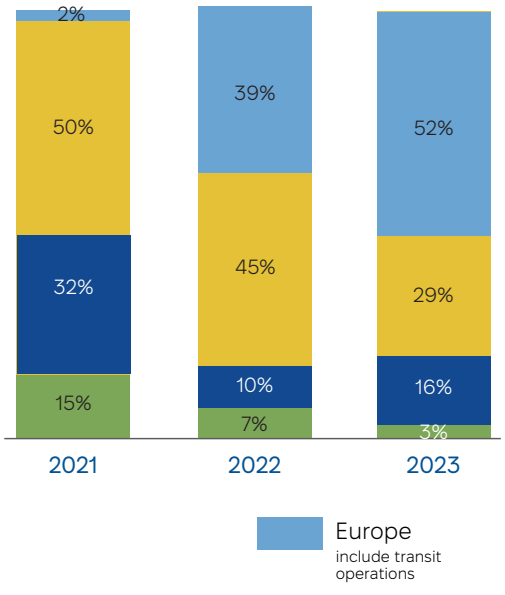
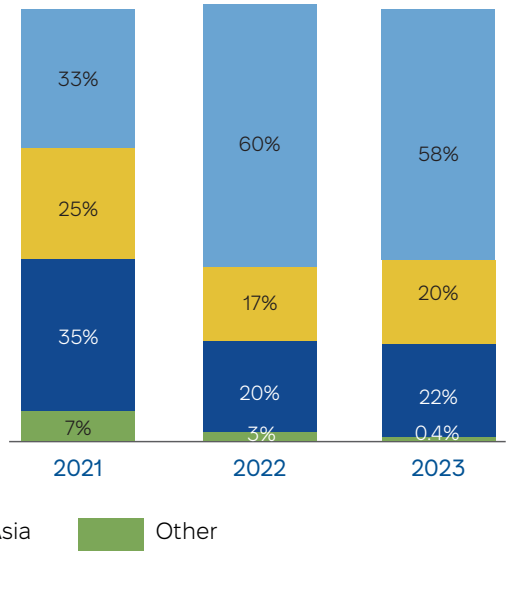


Figure 2: Share of Ukrainian corn (maize) export (%) by region of 2021-2023



Europe include transit operations | MENA | Asia | Other

[1] https://minagro.gov.ua
[2] https://data.worldbank.org
[3] https://www.ukrstat.gov.ua
[4] Report by the Center for Economic Recovery and EasyBusiness, December 2022

NATURAL ENDOWMENTS AND AGRICULTURAL LAND MARKET

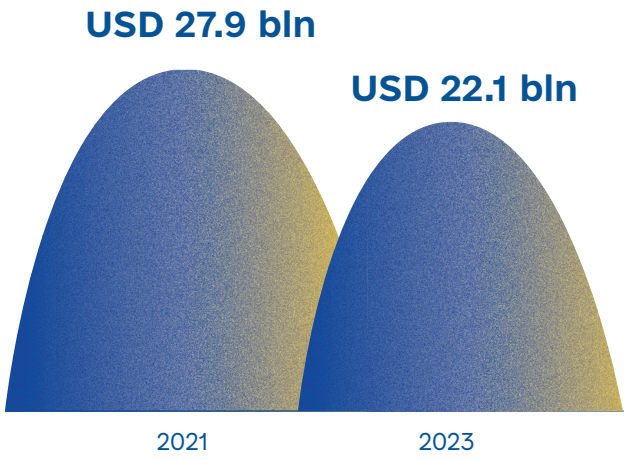
In 2020, Ukraine's agricultural land comprised 41.3 million hectares, 68.5% of Ukraine's total land area. 32.7 million hectares of agricultural lands were arable lands. The share of black soils – 15.6–17.4 million ha (8% of global reserves). **Currently, Ukraine controls an estimated 26.5 million hectares of arable land[5].** The land fund of Ukraine is characterised by an extremely high level of development. **In 2022, the rate of ploughed land in Ukraine reached an average of 54%, and in some regions – 70% or more, while the average rate in the EU countries is 30–35%.**

The sale of most of the private farmland in Ukraine was under a moratorium for over 20 years, which was abolished only on July 1, 2021. The newly formed farmland sales market, initially available only for individuals, was shut again after the Russian invasion till May 2022 due to the shutdown of the registries for security reasons. After the second opening in less than a year, the farmland market started its recovery. **In the first year after the opening of the post-invasion land market, a total of 109,500 hectares of deals were concluded. This figure rose to 212.8 thousand hectares in the second year after the full-scale invasion.** Overall, since the land market opened on July 1, 2021, 1.3% of Ukraine's farmland has been transacted. This volume represents roughly half of the transaction volumes seen in more developed markets.

The farmland prices are rising as well; in April 2024, the prices were 18.8% higher than in April 2023, increasing the capitalization of the farmland market by USD 6.9 billion. Partially, this bump in prices occurred due to the opening of the farmland market for legal entities, which received a right to buy farmland after January 1, 2024. This new phase of the land market reform also allows legal entities to receive loans using land as collateral, implying that an increase in farmland market capitalization over the last year created an additional USD 3.4 billion of collateral, which is vital to Ukrainian agribusiness that suffered USD 80 billion in damages and losses, which lead to the decrease in the credibility of the sector.

EXPORTS

Based on the 2023 performance, **Ukraine exported agricultural products in the amount of USD 22.1 billion, which is 21% less than the record performance of 2021 in the amount of USD 27.9 billion.**



Ukraine remains a key supplier of grain and sunflower oil in the world markets. Ukraine's contribution is

- **43%** of the world exports of sunflower oil,
- **19%** of rapeseed,
- **13%** of corn,
- **7%** of the world exports of wheat[6].

Despite its size, Ukrainian agriculture relies on exporting competitive but low-added-value grains and oilseeds. With regard to the more profitable prepared foods (excluding oilseed cake), **Ukraine is a net importer, and these products represent only 6% of Ukraine's trade with the EU[7].**

PROCESSED PRODUCTS, LIVESTOCK SECTOR, AND CREATING ADDED VALUE

Almost 80% of Ukraine's exports are raw commodities or partially processed products. Whereas in Poland, the share of added value in the structure of the agro-industrial complex activities amounted to about 75%[8]. According to preliminary estimates, the processing of 50% of agricultural raw materials, primarily wheat and corn, will give Ukraine an additional USD 30 billion in export revenues every year.

Ukraine has significant resources for biofuel production which are currently underexploited, but could potentially support European energy and climate goals as well as contribute to the development of the domestic market.

The raw materials for production can be renewable agricultural and forestry products that are not used for food or feed purposes, processing by-products, such as sugar beet pulp, corn silage, sorghum, etc., and livestock waste. Biofuels can replace gas and save 30% to 60% of the budget as an alternative to fossil fuels. Increasing biofuel share can ensure energy supply for social and critical infrastructure in times of war and Russian missile attacks[9].

Ukraine's livestock sector has experienced a transformation in the last two decades, marked by a steep increase in poultry production, but it is still relatively small. The livestock sector in Ukraine is important for ensuring the country's food security, however, the market is characterised by a steady tendency to reduce the number of almost all types of livestock. Exports of live animals and animal products in 2023 remained almost unchanged compared to the pre-war period (USD 1.36 billion in 2023, compared to USD 1.35 billion in 2021)[10]. Livestock production was profitable throughout 2023 thanks to lower feed prices.

[5] https://minagro.gov.ua
[6] https://apps.fas.usda.gov
[7] https://www.europarl.europa.eu
[8] https://data.worldbank.org
[9] https://www.kmu.gov
[10] https://customs.gov.ua

As a result of the full-scale war, Ukraine faced a number of challenges, but the effective interaction of business, the state, and international donors formed the foundation for further resistance to challenges.

Logistics

Prior to the Russian invasion, 98% of Ukraine's grain exports were transported through the Black Sea[11]. The disruption of the grain agreement and the blockade of shipping in the Black Sea affected the structure of logistics routes. The role of land transport has increased significantly.

> **To date, almost 90% of all agricultural exports goes through the ports of Great Odesa and the Danube river ports Izmail and Reni.** Ukraine has introduced a more effective logistics route without the participation of the Russian Federation, continuing to be a guarantor of food security.

The expansion of UNITY's affordable marine insurance program has helped cut insurance rates in half in the commercial market. For agricultural products, the rate under UNITY is currently at 0.75%[12].

> Over the year, monthly exports increased by 31% to 7.2 million tonnes of agricultural products in December 2023 compared to 5.5 million tonnes in January[13].

Since the start of the full-scale invasion, there has been a rapid shift to river shipping, and yet the potential for river transport development remains largely untapped. Logistics and grain exports have changed in the context of limited use of landlocked Dnipro River. The role of the Danube Cluster ports has increased significantly, maintaining consistently high exports. **The GoU plans to further increase the capacity of the Danube ports and expand the export capacity of the Danube cluster from 33 million tonnes in 2023 to 35-40 million tonnes in 2024[14].** The Great Odesa Ports handled 33.8 million tonnes of cargo between September 2023 and March 2024. Further volume increase is expected.

Territorial Threats (Mined Territories)

According to the Minister for Internal Affairs, about 25% of Ukrainian lands have been contaminated with landmines and unexploded ordnance. Ukraine is interested in increasing the number and expanding the existing programs for demining the lands of small farmers and supporting agricultural producers initiated by international institutions (WFP, FAO, FSD)[15]. Ukrainians are actively working on the development of drones and unmanned aerial vehicles for non-technical surveys of territories. **In less than a year, Ukraine increased its demining capabilities several times and returned to use, after an inspection, 19,000 km2 of lands in 2023-2024[16].**

The price of a non-technical examination can fluctuate around USD 6 per hectare, a technical examination - USD 3,050 per hectare, and clearing - as much as USD 29,400 per hectare[17].

Territorial Threats (Consequences of Destruction of the Kakhovka HPP)

In the pre-war period, almost 19 million hectares out of 31.7 million hectares of Ukrainian lands suffered from a severe shortage of moisture supply. The destroyed Kakhovka HPP aggravated the problem of water supply. Over 300,000 hectares will now depend on uncertain rain-fed irrigation, resulting in productivity losses of up to 70%. Reclamation and irrigation systems for land restoration are becoming more relevant, which has attracted the interest of international donors and investors. In July 2023, Japan International Cooperation Agency proposed several main directions for the restoration and modernization of the irrigation system in Ukraine.

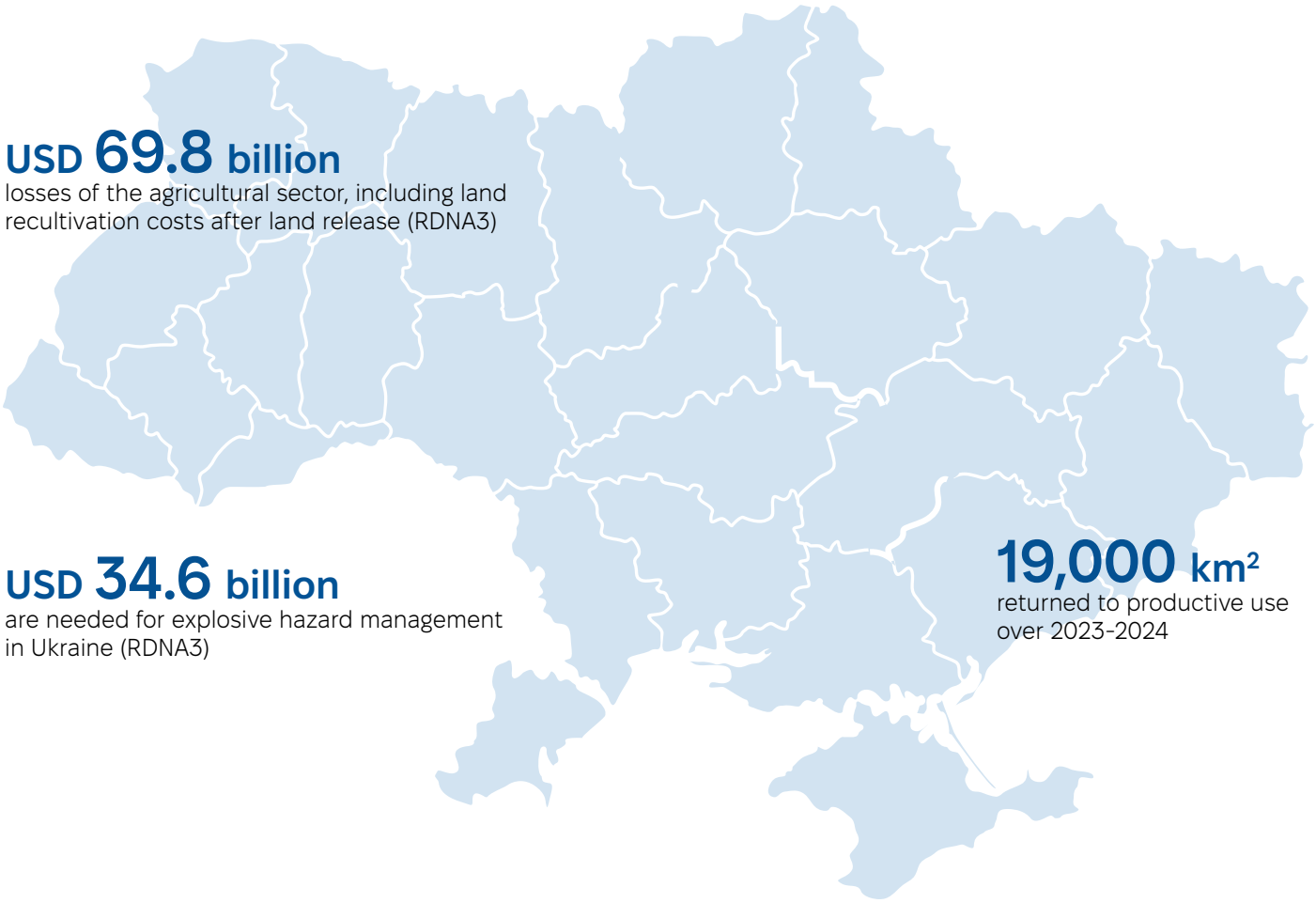
The cost of 1 hectare of drip (mainly soil) irrigation system construction will be USD 3,000-3,500. The potential for expanding the irrigated area is 1.5–1.8 million hectares of land. Modernization will require USD 3 billion of investment and will allow additional irrigation on a total area of about 1,180,000 hectares. In addition, there are 350,000 hectares of drainage systems of various types, at a total cost of USD 694 million, which should be modernised to increase their functionality.

Liquidity Issue

The state continues to promote the development of entities throughout Ukraine by offering them the "affordable 5-7-9%" lending program, budget subsidies and subventions, grant programs and guaranteeing deposits.

Other support programs include a budgetary subsidy per hectare for farmers who cultivate up to 120 hectares of agricultural land and a separate subsidy for farmers from the de-occupied territories or territories. In addition, special budgetary subsidies for cattle and grant programs for gardens and greenhouses are available. A partial deposit guarantee fund has been launched to provide guarantees for farmers to buy equipment, land, etc. if they lack collateral. A 25% state compensation for the purchase of domestic agricultural machinery was also initiated. The activated financing by international donor organisations and investors creates a favourable environment for the growth of creditor loyalty[18].

[11] https://www.trade.gov
[12] https://www.me.gov.ua, https://bit.ly/4e8ciAv
[13] https://apps.fas.usda.gov
[14] https://mtu.gov.ua
[15] https://www.me.gov.ua
[16] https://www.me.gov.ua
[17] https://kse.ua
[18] https://www.consilium.europa.eu



OVERVIEW OF KEY PLAYERS IN THE SECTOR AND SUCCESSFUL CASES OF RECENT YEARS

Ukraine's agricultural sector is characterised by a competitive market environment. Market players vary in size: large domestic companies and subsidiaries of international groups operate alongside small local farmers. SMEs are responsible for over 83% of product sales, while the share of large enterprises is lower at 16%[19].

Table 1: The 10 largest agricultural producers and exporters in Ukraine by revenue

Company name	Origination	Revenue 2023 (USD million)
Kernel	Ukraine	3,455
MHP	Ukraine	3,021
Ukrlandfarming	Ukraine	658-921
ADM Ukraine	Global	663
Agroprosperis	Global	526-790
Eridon	Ukraine	542
Astarta	Ukraine	463
Nibulon	Ukraine	400
Viterra	Global	361
Bunge	Global	361

Sourse: Compiled on public data

[19] https://www.ukrstat.gov.ua

CASE 1. Plant protection products – Ukravit Institute (commissioned in 2020)

Ukravit Group has invested USD 7 million to open a research centre Ukravit Institute in Cherkasy.

The Ukravit Institute develops original Ukrainian crop protection products that meet international certification. Each year, 2 or 3 of the most efficient combinations and developments are brought to the Ukrainian and global market. As part of the Horizon Europe 2021-2027 project, Ukravit is developing the latest optical nanocomposite sensors for the analysis of micro and macro elements in maize.

CASE 2. «Green energy» development – Kernel (commissioned in 2021)

Under a loan from the EBRD and the Clean Technology Fund, Kernel built a bioenergy plant in Poltava with an electrical capacity of 10 MW and a thermal capacity of 42 MW. The cogeneration plant runs on sunflower husk and produces heat and electricity for the plant.

CASE 3. Logistics of the Danube cluster – Nibulon (commissioned in 2023)

In 2022, Nibulon began to develop the Danube as an alternative export route, investing USD 15.5 million to build grain transhipment facilities from rail and road to river transport.

In 2023, the company doubled the share of its own fleet's shipments on the Danube, and in the first quarter of 2024, Nibulon regained its leadership in Ukrainian grain exports. The share of cargo delivered by Nibulon's own fleet was 27%, compared to 10% in 2023.

CASE 4. Deep processing of millet – Zolotonoskyi Bacon (commissioned in 2023)

A millet processing plant built by Zolotonoskyi Bacon LLC of Time Investment Group has been commissioned in the Cherkasy region. The cost of construction was USD 2.5 million. The capacity of the plant is 4 tonnes of millet per hour. The output per tonne of millet is 700 kg of millet.

The plant will focus on both the domestic market and millet exports to the EU, where gluten-free products are in high demand.

CASE 5. Processing development in Starokonstantinovskiy OEP – Kernel (commissioned in 2024)

Starokostiantynivskyi OEP is already operating at 50% capacity and is continuing to accelerate. Total investment exceeded USD 200 million.

OEP has two processing lines, 75-80% of which are already used for sunflower processing. The remaining 15-20% will be used to process rapeseed and soya beans. The plant has the processing capacity of up to one million tonnes of product annually and 120,000 tonnes of sunflower seed storage.

4.1.2. Overview and outlook of key reforms

Ukraine has clear commitments to continue reforms in the agricultural sector for integration into EU markets, enhancing investment attractiveness, and developing the industry's potential, as outlined in the Ukraine Facility[20]

Reform 1. Aligning the institutional framework, agriculture and rural development to the EU policy (Q1 2027)

Potential impact: The agricultural and rural development strategy focuses on capacity building and requires significant investment to harmonise policies with the European Union, strengthen institutions, support small producers, protect the environment and enhance financial management.

Clearly defined strategic priorities will contribute to the effective implementation of support measures aimed at the development of agri-food supply chains, diversification of manufacture, improvement of quality and safety standards, etc. The reform will encourage evidence-based policy making.

Reform 2. Ensure functioning of the land market (Q1 2025)

Potential impact: Ensuring full digital access to services will help reduce administrative discretion, improve service accessibility for the population and businesses, while also aiding tax collection and local government planning. This initiative will also contribute to greater transparency in the land market.

The introduction of market turnover of agricultural land leaves open the question of access to the agricultural land market for foreigners and companies with foreign beneficiaries. The reform should encourage the implementation of cautious but decisive steps to ensure a balance between regulation and the flow of foreign investment.

Reform 3. Improve institutional and administrative capacities to manage the investment programs (Q3 2025)

Potential impact: Implementation of an EU-style investment public support programme would improve governance standards, increase transparency and efficiency of channelling public support to the agricultural sector. It would also enable Ukraine to gain experience of EU procedures, strengthen capabilities at the national and local levels and prepare for eventual implementation of EU pre-accession programmes in agriculture and rural development.

Successful project implementation and effective management require thorough support, including engineering support, ensuring personnel safety and other aspects that affect the implementation of investment projects. The project launch is not limited to project planning, but requires additional investment to ensure the necessary elements for its implementation.

Reform 4. Improvement of the official public electronic farm register (Q1 2026)

Potential impact: Completing registration of all agricultural producers, with a particular focus on encouraging registration of the smallest producers, would improve access to support programmes for those in need, lead to higher tax revenues and encourage sector formalisation. It would also improve the functioning of the system of public support for agriculture through eliminating administrative obstacles and costs for agricultural producers when receiving state aid.

Reform 5. Long-term development of the irrigation system to increase climate resilience of the sector (Q1 2025)

Potential impact: The development of an irrigation system will enhance the productivity of agricultural lands and help ensure production stability in the face of extreme climatic conditions. Such a project can help mitigate the risks associated with droughts and improve food security in the country.

Reform 6. Demine lands and water areas (Q2 2024)

Potential impact: Adopting the reform will allow to coordinate and determine the general goals and priorities of policies in the field of humanitarian demining and mine action, areas of responsibility, role and tasks of government authorities, non-government and private demining operators, as well as priority areas of attracting support from international partners. The reform will contribute to attracting and maximising the efficiency of the use of resources.

[20] https://www.ukrainefacility.me.gov.ua

The list of reforms is not exhaustive. The Ukrainian government is also working to strengthen export logistics by opening new international checkpoints, speeding up cargo inspection procedures and expanding border capacity. Ukraine is actively allocating funds to restore critical logistics infrastructure (including rail and road networks) through the Restoration of Critical Logistics Infrastructure and Network Connectivity project[21].

Among the policies aimed at developing human capital, the government plans to create a safe and inclusive educational environment for access to quality education and to transform vocational education, including updating higher education standards and strengthening university autonomy, which will contribute to increased selectivity and flexibility of educational disciplines[22].

The state continues to support agricultural enterprises, in particular, in April 2024, the compensation of the cost of domestic machinery was renewed up to 25%. The state maintains the funding of subsidy programmes, low-cost loans and guarantee programmes.

4.1.3. Tendencies and trends

1 **Climate Change and Resource Sustainability:** Changes in climate conditions impact crop yields and the types of crops that can be grown in various regions. Adapting to these conditions through the implementation of sustainable practices and technologies will be critical.

2 **Digitalization and Automation:** Integrating advanced technologies such as precision farming, automated water management systems, and drones for spraying and monitoring can significantly increase efficiency and productivity.

3 **Bioeconomy and Circular Economy:** Focusing on the production of bioproducts and utilising organic waste as resources can help create added value and reduce environmental impact.

4 **Global Food Demand Increase:** Rising populations and increasing incomes in developing countries lead to higher food demand, which can be an opportunity for exports, especially given Ukraine's fertile chernozem soils.

5 **Changes in Global Trade and Policy:** Trade agreements, customs regulations, and political stability will influence Ukraine's export opportunities. Events like Brexit, changes in US policy, and other geopolitical shifts can alter trade flows.

6 **Enhanced Quality and Safety Standards:** Global markets require greater transparency and high safety standards for food products. This will necessitate the implementation of advanced standards and certification by Ukrainian producers.

7 **Expansion of Markets for Organic Produce:** The growing global trend towards healthy eating and organic products opens new opportunities for the Ukrainian market, considering the large areas that can be dedicated to organic farming.

4.1.4. Prospects and potential for the sector

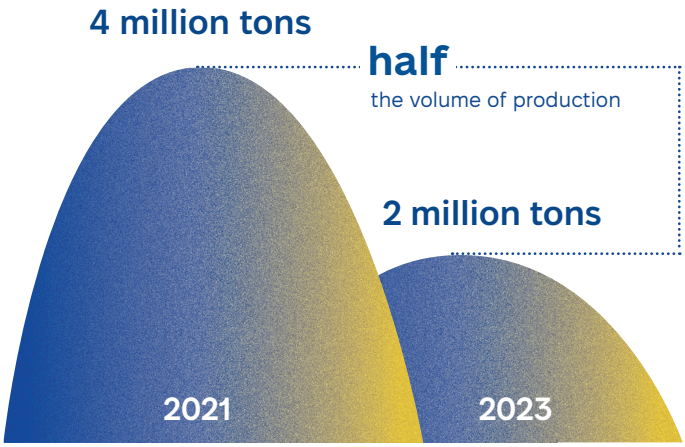
The agricultural sector has a significant potential to stimulate economic growth in Ukraine, but the key factors are further integration into the EU, access to higher levels of the value chain and modernization. Sectors that are investment-attractive for further development are presented below.

SEEDS – SUBSTITUTING IMPORTS

In the first half of 2022, Ukraine imported ten times more seeds than it sold abroad. One of the goals of the agribusiness development strategy is seed imports substitution. **Currently, Ukraine lags behind the world players in the amount of investments in R&D, on the other hand, favourable climatic conditions, not fully loaded manufacturing capacities, and an interest from international players in further localization of production indicate to a significant potential of the seed industry.** MAPF, in terms of the strategy for the development of the agricultural industry, forecasts investments in the seed market at the level of USD 840 million and construction of 12 seed production plants.

[21] https://www.kmu.gov.ua
[22] https://www.me.gov.ua

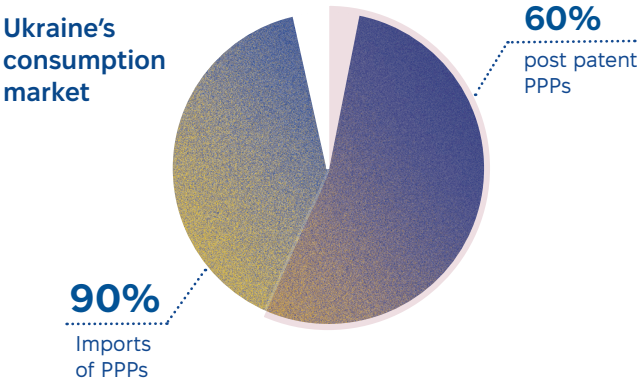
FERTILISERS – SUBSTITUTING IMPORTS AND INTRODUCING GREEN TECHNOLOGIES



In 2023, the production of nitrogen fertilizers in Ukraine was reduced by 2 times - to 2 million tons. Own capacities are limited in supplying significant volumes to the market. At the beginning of the full-scale invasion, many new players appeared, but, as of today, there is a noticeable reduction in production and plant shutdowns due to a significant dependence on the prices and supply of natural gas and raw materials. The direction of green (low carbon) fertilisers is less dependent on gas, but requires significant investments, which limits the market access of Ukrainian producers. For import substitution, it is advisable to involve international companies-leaders of the industry to launch "green" factories and localise production, which will also contribute to the improvement of the currency balance.

PLANT PROTECTION PRODUCTS (PPPS) – LOCALISING THE PRODUCTION BY INTERNATIONAL PLAYERS

Imports of PPPs make up about 90% of Ukraine's consumption. Currently, 60% of the market is taken by post-patent PPPs, with further growth expected.



The active development of the potential of local production of PPPs is possible under the conditions of reloading the available capacities of domestic manufacturers and their partnership with international companies to build trust among consumers. The role of bio- and organic PPPs is also growing rapidly, due to the desire of the EU countries to reduce the consumption of pesticides by 50% by 2030. The loyalty of agricultural holdings to well-known international brands makes it difficult for originators to enter the market. The scientific capacity of patent PPPs requires significant R&D expenses.

Simplified business conditions, affordable financing and tax holidays will make it easier for Ukrainian originators to enter the market.

AGRICULTURAL EQUIPMENT – LOCALISING THE MANUFACTURE OF HEAVY SELF-PROPELLED MACHINERY, DEVELOPING ATTACHMENT EQUIPMENT AND ACCESSORIES AND INNOVATIVE TECHNOLOGIES

In 2022, the capacity of the Ukrainian market for agricultural machinery decreased by 21% to USD 2.6 billion. Compared to Poland[23], Ukraine has three times less application of machinery, and, therefore, domestic demand has not reached saturation[24]. **The current state of the market is characterised by high import dependence and a high share of the secondary market (70% by the number of the machinery).** Investing in the existing domestic production of motor equipment has a low perspective due to outdated technologies and low consumer confidence. **In the motor equipment sector, it is expedient to concentrate on cooperation with global brands and locating their production facilities in Ukraine.** Ukrainian manufacturers are already moderately represented in the field of attachment equipment and accessories, which have a prospect of replacing a large share of imports, provided that adequate cost is ensured and investment and state support programs are attracted. **A high potential is granted to the direction of innovative equipment (drones, sensors), which are becoming relevant in the field of demining and precision farming.**

[23] https://stat.gov.pl
[24] https://www.ukrstat.gov.ua
[25] https://www.kmu.gov.ua

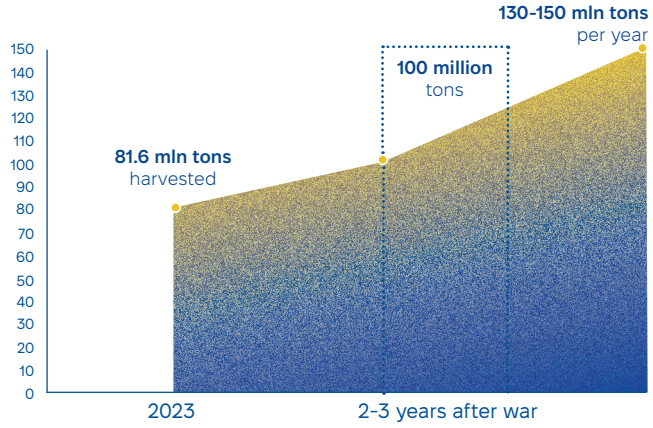
IRRIGATION – INCREASING IRRIGATION CAPACITIES

Operational wear and tear of irrigation systems in Ukraine has reached a critical limit and is more than 80%, which was intensified by the invasion from the Russian Federation and the blowing up of the Kakhovka HPP dam.

Restoration and development of irrigated agriculture is one of the priority tasks of the country. **In its irrigation and drainage development strategy until 2030, the GoU projects the further expansion of irrigation areas and water regulation, as well as the reform of the state water resources management system**[25]**.** The increased potential of inter-farm and intra-farm irrigation systems requires attracting significant investments in infrastructure, scientific research and development. International donors and investors are actively involved in the development of irrigation systems (USAID within the framework of the "Agro" Program and Japan International Cooperation Agency within the framework of the project of "Urgent Support of the Agricultural Sector").

DEVELOPMENT OF FOOD PROCESSING INDUSTRY

The record volumes of the harvest in 2021 amounted to more than 110 million tons. **In 2023, Ukraine harvested 81.6 million tons. Within two or three years after the end of the war, it will be possible to bring the harvest to the level of 100 million tons or more. The harvest potential of Ukraine is estimated at 130-150 million tons per year.**



However, the question arises of the feasibility of further increasing the sown areas to increase the harvests. As of 2022, the rate of ploughed land in Ukraine reached an average of 54%, and, in some regions, 70% or more. The processing sector is becoming more relevant to expand the value-added chain, which is currently poorly developed in Ukraine.

The development of the processing sector after the war will start with oil-bearing crops, such as sunflower, soya, and rapeseed, to be followed by corn and then by other agricultural crops. Within next years, Ukraine may receive an extra USD 20 billion a year from this sector.

This resource will be sufficient for reinvesting it in the processing sector, a move which will help enter a new stage of processing and the production of goods with higher profit margins.

LIVESTOCK SECTOR – DEVELOPING INFRASTRUCTURE TO INCREASE EXPORTS

The livestock sector in Ukraine has significant export potential. The actual state of the industry does not correspond to the potential opportunities. The products of pig breeding, livestock, and aquaculture are mainly consumed in the domestic market. In the area of milk and dairy products, private production prevails. Dependence on the imports of genetic resources is increasing, and the existing selection system is not effective enough in terms of the main parameters compared to foreign players. **Domestic manufacturers are considering export potential to the countries of the Middle East, Europe, and Asia due to the saturation of the domestic market of Ukraine and limited purchasing power, which reduces the level of marginality. Export efficiency will be achieved under the condition of cost optimization and adaptation of the production infrastructure.** The development of the existing market requires the improvement of sanitary control and construction of centralised slaughterhouses. Building full-cycle factories and localization of premix production will provide an opportunity for better cost control. To prepare products for further exports, it is needed to expand the space of cold warehouses and modern refrigerated logistics centers.

The most urgent investments include restoration of damaged assets, agricultural recovery support by addressing liquidity issues, particularly for small farmers, focus on higher value-added products and export orientation, investment in climate change resilience and integrated food and energy systems[26]**.**

Attracting investment in the country's agricultural sector will help increase the sector's productive capacity, introduce innovation, strengthen the country's food security and address a significant number of social problems in rural areas.

[26] https://www.ukrainefacility.me.gov.ua

AGRIFOOD SECTOR

Highlighted investment projects

AGRICULTURAL INDUSTRY

MHP PJSC

RAPESEED & SOYBEAN PROCESSING PLAN

VINNYTSA REGION, LADYZHYN

- **Brief Description: grain processing and export of value-added products.**
- The plant's construction will allow processing ~208,000 tons of oilseeds (rapeseed & soybean) per season.
- **Target Market:** we export our agricultural production over then 30 countries in Asia, Africa, MENA and Europe and demand for processed products is growing
- **Products/Services:** main products are soybean & rapeseed oils, by-products are soybean & rapeseed meal and soybean shell.
- **Technologies and Innovations:** extraction plant with 650-ton extractor. In steam production (for technology) we will use soybean shell and grain waste
- **Project Status:** Development of project and estimate documentation (current stage - pre-project decisions and determination of necessary equipment). We have land for construction with communications

Projects Highlights[1] ($ mln)

Type of financing - [equity / project finance]
Financing structure: CAPEX - 100% / OPEX - 0%

Expected Financial Indicators:

- NPV - (9.1, 10 years)
- IRR - 22.6%
- DPP (months) - 76
- Project launch period - 1.6
- Revenue - [full capacity] (98.2, 2026 year)
- EBITDA - [full cap.] (11.7, 2026 year)

BUSINESS MODEL

Vertically integrated agroindustrial holding: we have own of rapeseed and soybeans & we are purchasing grain from our partners - micro, small, and medium (MSMEs) agricultural enterprises. We have great potential to export from Ukraine processing product to end-consumers.

Our export (fact, AVG per year):

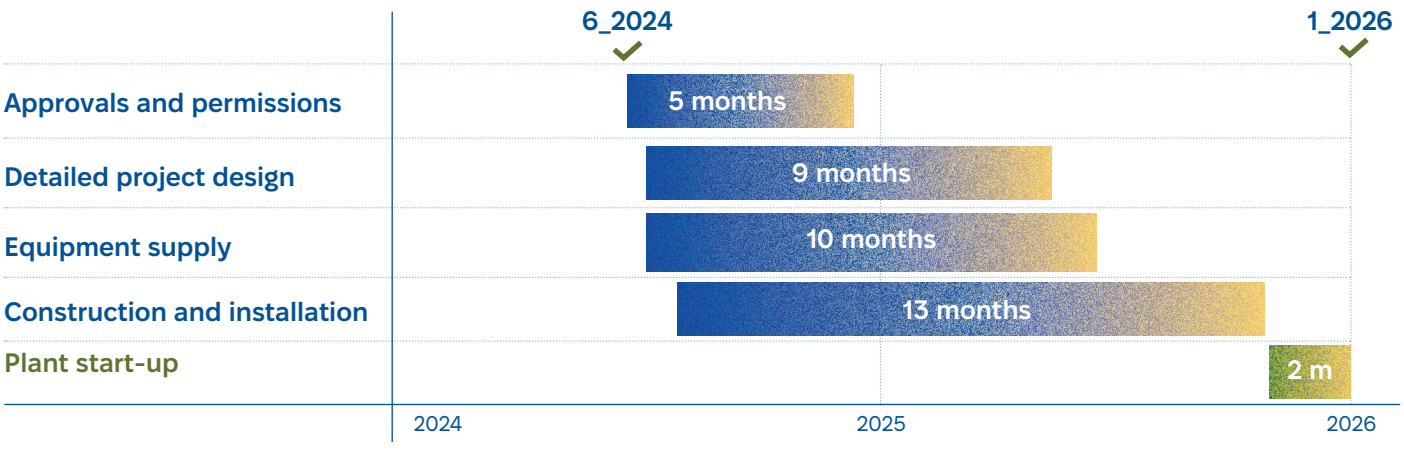
Rapeseed
82 k tons

Soybean
77 k tons

Key partners

MSMEs agricultural enterprises - suppliers of raw materials
International traders and consumers - buyers of processing products

Key Points Of Project Implementation



[1] - The project information and financial indicators are provided by company-initiator of the project.

AGRICULTURAL INDUSTRY

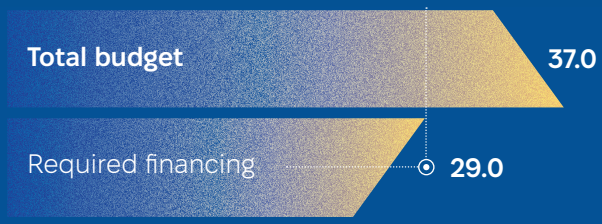
MHP PJSC

DAIRY CATTLE BREEDING

CHERKASSY, VINNYTSIA, KHMELNITSKY REGION (11 LOCATIONS)

- **Brief Description: food safety.**
- Reconstruction of existing 11 farms & new technologies will allow to produce additional milk yield +43% (+ 28,000 tons of crude milk (for selling) per year
- **Target Market:** Ukraine dairy plants
- **Products/Services:** crude milk
- **Technologies and Innovations:** animal welfare. After launching this project - electricity cogeneration from biogas plants on farms
- **Unique Selling Proposition:** # 2 Ukraine crude milk producer
- **Project Status:** Pre-reconstruction, Stage 1 (purchase of mats, manure separation and storage systems, etc.).

Projects Highlights[1] ($ mln)



Type of financing - [equity / project finance]
Financing structure: CAPEX - 100% / OPEX - 0%

Expected Financial Indicators:

- NPV - (8.9, 10 years)
- IRR - 20.3%
- DPP (months) - 85
- Project launch period - 1.6
- Revenue - [full capacity] ((37.1, 2027 year)
- EBITDA - [full cap.] (10.9, 2027 year)

BUSINESS MODEL

Vertically integrated: from field to milk (grain → feed → cattle → crude milk → $)

We have own 23 dairy farms in 3 regions and we plan to enlarge them to 11.

Volume of crude milk for sale (AVG per year):

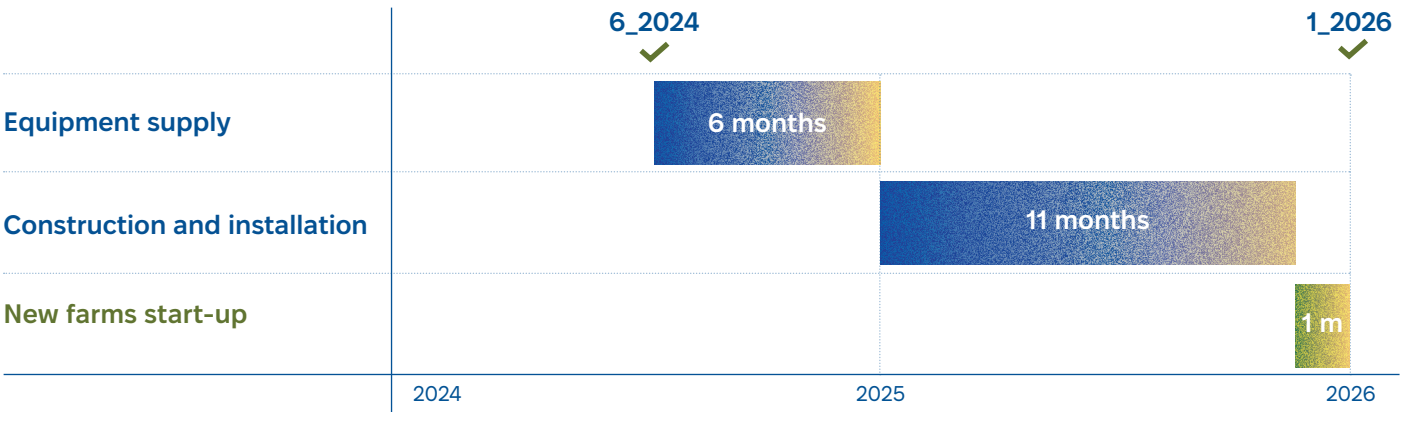
As is: **64 k tons**

To be: **92 k tons**

Key partners

Ukraine dairy plants - buyers of our crude milk

Key Points Of Project Implementation



[1] - The project information and financial indicators are provided by company-initiator of the project.

AGRICULTURAL INDUSTRY/ENERGY

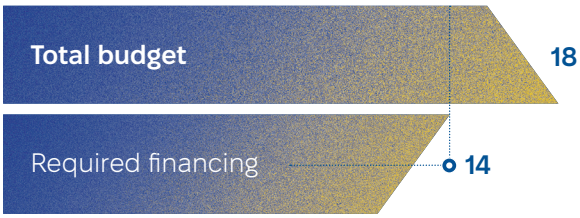
MHP PJSC

SUNFLOWER HUSK COGENERATION 10 MWH

VINNYTSA REGION, LADYZHYN

- **Brief Description: energy safety.** The construction of cogeneration complex will allow to generate ~75,000 MWh of electricity per year from alternative energy sources.
- **Target Market:** TUkraine energy system by using "day-ahead" market, the intraday market and the balancing market
- **Products/Services:** electricity
- **Technologies and Innovations:** Tsunflower husk → 10 WMh steam turbine generator - electricity
- **Unique Selling Proposition:** we have own sunflower husk for cogeneration from our oil press plant which we export nowadays
- **Project Status:** Development of project and estimate documentation (current stage - pre-project decisions and determination of necessary equipment). We have land for construction with communications

Projects Highlights[1] ($ mln)



Type of financing - [equity / project finance]
Financing structure: CAPEX - 100% / OPEX - 0%

Expected Financial Indicators:

- NPV - (1.6, 10 years)
- IRR - 16.3%
- DPP (months) - 95
- Project launch period - 1.6
- Revenue - [full capacity] (9.4, 2026 year)
- EBITDA - [full cap.] (4.7, 2026 year)

BUSINESS MODEL

We have own sunflower husk from our oil press plant, which will be use in cogeneration process instead of actual sales.

Our export (fact, AVG per year):

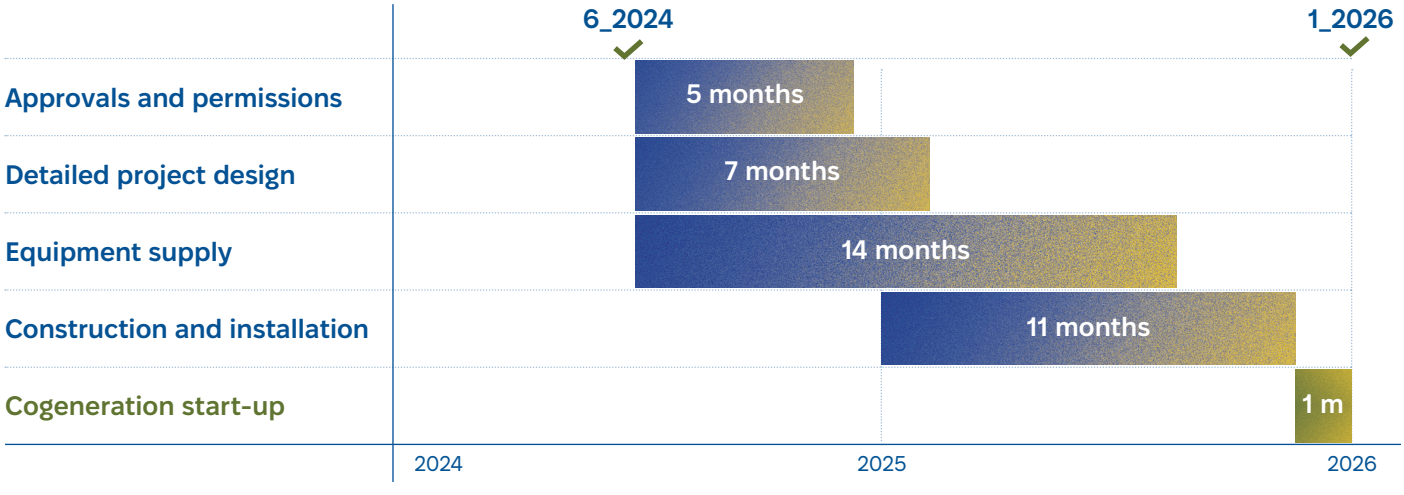
As is: sunflower husk
92 k tons

To be: electricity
75 MWh tons

Key partners

Licensed traders - electricity buyers

Key Points Of Project Implementation



[1] - The project information and financial indicators are provided by company-initiator of the project.

FOOD PRODUCTION / AGRIFOOD

BIP-OPOS GROUP OF COMPANIES | NOVO FISH

NOVOVOLYNSK, UKRAINE

- **Brief Description:** high-end technology fish-processing plant focused on salmon-processing and packaging to sell own brand assortment and private label product solutions for big retail players and international distributors in top-world salmon consuming markets.
- **Target Market:** international HORECA operators, EU retail chains, international distributors – MENA region, Japan, US market, Germany. Basic sales – Ukrainian retailers.
- **Products/Services: B2B products:** fillets and slices. Bi-products for fish-processing plants and cans. Both private label products for big retailers and own brand assortment: packaged fillets, sliced/ steak, smoked and fresh.
- **Technologies and Innovations:** newest cutting edge equipment with lasers by a world leader – Baader Gmbh.
- **Unique Selling Proposition:** Fresh and smoked Norwegian salmon in convenient B2B and B2C packaging made on high-end German Baader equipment 20 minutes away from EU markets.

Projects Highlights[1] ($ mln)

Type of financing - equity and/or long-term debt
Financing structure: CAPEX – 80% / OPEX – 20%

Expected Financial Indicators:

- NPV – 3.84, 10 years
- DPP (months) – 62
- Revenue – 58.4 / year
- IRR – 18%
- Project launch period – 2 years
- EBITDA – $ 4.2 / year

- **Project Status:**

- 2 hectares land plot within Industrial Park is reserved;
- Electricity, water and sewage infrastructure has been prepared;
- Factory planning– preliminary phase, need equipment approval;
- Preliminary agreement with state banks on partial financing;

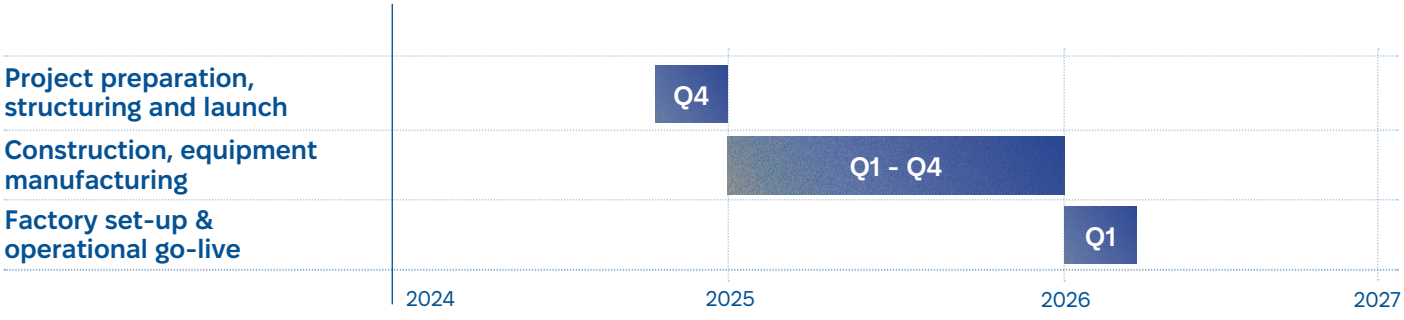
BUSINESS MODEL

- Own brand - packaged fillets and sliced fresh and smoked salmon for HORECA and retail customers
- Private label sliced salmon and fillets – for European retailers and distributors
- Salmon bi-products – sold to fish and cans manufacturers

Key partners

Baader, state bank Ukreximbank, state bank Ukrgazbank, Export Credit Agency of Ukraine, Volyn regional administration, Norwegian suppliers, Fish Importers Association of Ukraine

Key Points Of Project Implementation



[1] The project information and financial indicators are provided by company-initiator of the project.

LOGISTICS / 3PL

BIP-OPOS GROUP OF COMPANIES | NOVO COLD TERMINAL

NOVOVOLYNSK, UKRAINE

- **Brief Description:** Cold terminal of A class (-18C) for storage and service of frozen food categories (fish, meat, berries, poultry, ice-cream, etc.). 3PL logistics professional services and pallet-places automated storage with modern WMS IT systems. "Green terminal" – 0 CO2 emissions.
- **Target Market:** international FMCG players, retail chains, distributors and local medium-size and large importers/exporters within described product categories.
- **Products/Services:** pallet-places storage for rent, 3PL and logistics services - palletizing, packing/unpacking, sorting, labeling, delivering to other DCs.
- **Technologies and Innovations:** green electricity used (solar panels) to be self-sufficient and fully green. Electrical charge stations available for Euro-trucks. 0 CO2 emissions.
- **Unique Selling Proposition:** First fully green A-class cold storage with professional 3PL services for top FMCG players, retailers as well as food products exporters and importers 20 minutes away from Poland.

Projects Highlights[1] ($ mln)

Type of financing - debt, equity (mix)
Financing structure: CAPEX – 95% / OPEX – 5%

Expected Financial Indicators:

- NPV – 3.55, 14 years
- DPP (months) – 78
- Revenue – 8.2 / year
- IRR – 15%
- Project launch period – 2 years
- EBITDA – 5.1 / year

- **Project Status:**
- Permissions on the land and ecology regulations received;
- Electricity and sewage infrastructure has been prepared;
- Project planning and design in the last phase of realization;
- Preliminary agreement with state banks on partly financing;

BUSINESS MODEL

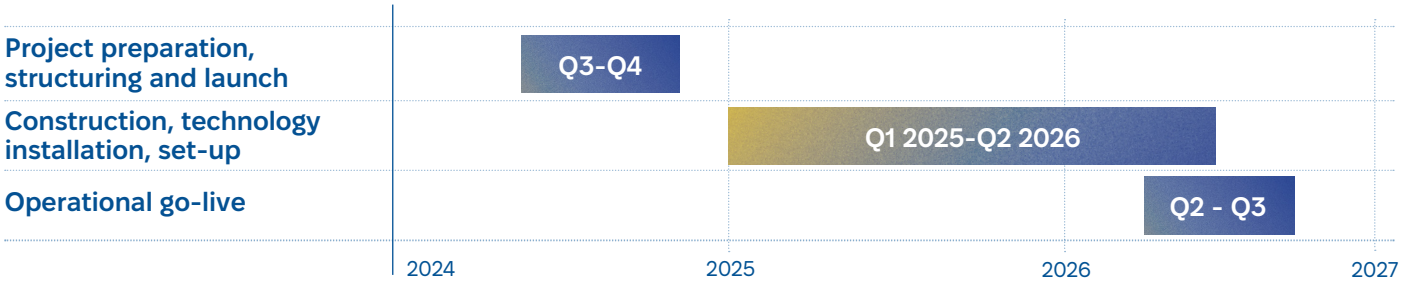
There are 2 profit streams in this project:

- Rent of pallet-places – there will be 43 000 pallets in the cold terminal for short-term (20%) and long-term (80%) rent;
- Logistics services for customers: packing, sorting, palletizing, lifting, cross-docking, labeling and other 3PL options for business needs of the Customers.

Key partners

State bank Ukreximbank, state bank Ukrgazbank, Export Credit Agency of Ukraine, Volyn regional administration, Novovolynsk city council, intl FMCG food producer, Fish Importers Association of Ukraine

Key Points Of Project Implementation



[1]The project information and financial indicators are provided by company-initiator of the project.

ECONOMY SECTOR

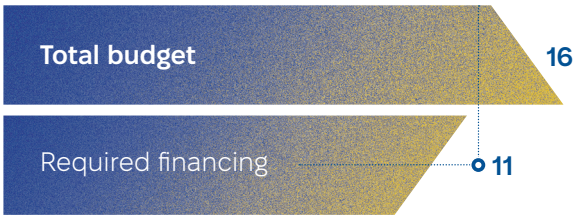
PE «AGRARNA KOMPANIYA 2004»

DAIRY FARM FOR 2300 COWS

KHMELNITSKY REGION, UKRAINE

- **Brief Description:** Construction of a dairy farm for 1200 onstruction of a dairy farm for 1200 Projects Highlights' ($ mln) (if applicable) heads and reconstruction of existing buildings for keeping Jersey cattle. To launch the project, it is planned to import 1100 heads of Jersey cattle from Denmark.
- **Target Market:** Increase in gross milk production across the company from 60 to 100 tons per day to meet the growing demand for raw milk in Ukraine amid declining prices for grain and protein feed.
- **Products/Services:** Whole milk, cattle meat, organic fertilizer from cattle manure (through composting)
- **Technologies and Innovations:** Tetherless housing, 2X24 milking parlor with built-in milk cooling (new dairy farm for 1200 heads)
- **Unique Selling Proposition:** Extra milk with a fat content of 3.7% and protein of 3.3%
- **Project Status:** Current status - design based on existing Farms.

Projects Highlights[1] ($ mln)



Type of financing - debt / equity
Financing structure: CAPEX - 73% / OPEX - 27%

Expected Financial Indicators:

- NPV - (5 years) - 3.6
- DPP (years) - 3.9
- Revenue - [full cap.] (8.2, 3 year)
- IRR - 22.4%
- Project launch period - 1 years
- EBITDA - [full cap.] (4.6, 3 year)

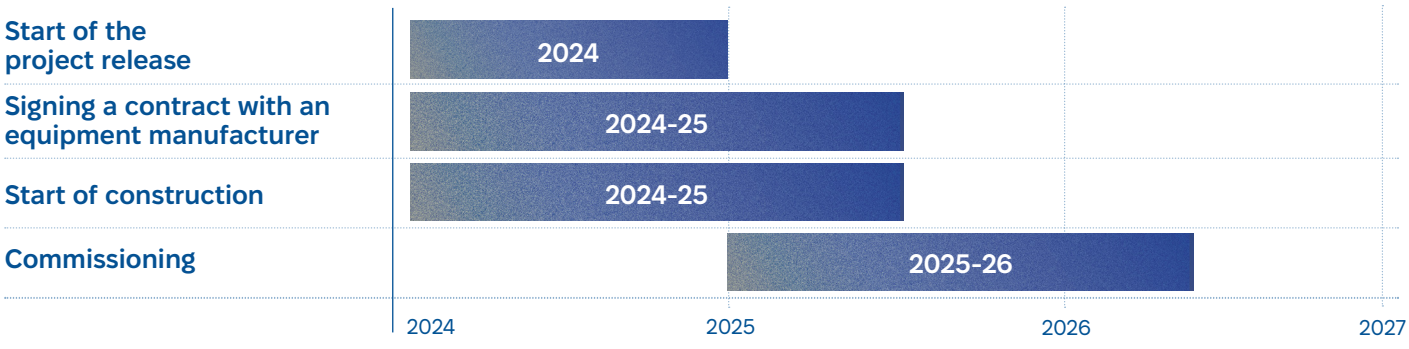
BUSINESS MODEL

- The project aims to create 2 cowsheds for 600 cows and a milking parlor. The increase in whole milk production capacity will help to better meet the demand for dairy products in Ukraine and reduce pressure on dairy prices. It will also help to be as efficient as possible within the vertically integrated ecosystem: growing grain crops to provide feed for the dairy herd in order to produce whole milk.

Key partners

Vitagro Group of companies as a key investor. DeLaval as an equipment supplier. Dubnomoloko as the main consumer of the products

Key Points Of Project Implementation



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PROCESSING

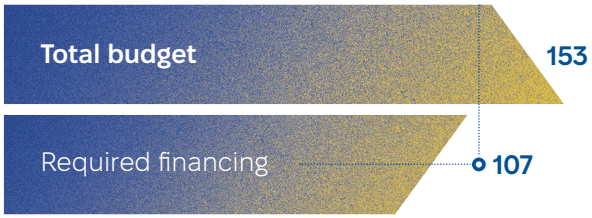
VITAGRO GROUP OF COMPANIES

KHMELNITSKY REGION, UKRAINE

PLANT FOR THE PRODUCTION OF SOY PROTEIN CONCENTRATE (SPC)

- **Brief Description:** The project involves building a plant with a processing capacity of ~450,000 tons of soybean to produce soy protein concentrate with soybean oil and molasses as by-product.
- **Target Market:** The main consumers are producers of animal feed for fish. farms, pig and poultry farms that use high-quality ingredients, as well as Livestock farms themselves in the EU market.
- **Products/Services:** The main processed products will be crude soybean oil, meal, soy protein concentrate and molasses. The husk as a waste product will be used for a solid fuel boiler house for steam generation.
- **Technologies and Innovations:** It is planned to use innovative (Technologies from European and Ukrainian equipment manufacturers, including tor waste utilization, which will ensure high quality of the final product and be as environmentally friendly as possible
- **Unique Selling Proposition:** The strategic location of the plant will provide access to raw materials and markets The company has its own reliable raw material base, ensuing a stable supply of nigh-quality soybeans for processing. The products will meet international quality standards, which opens up export opportunities.

Projects Highlights[1] ($ mln)



Type of financing - debt / equity / project finance / grants
Financing structure: CAPEX - 50% / OPEX - 50%

Expected Financial Indicators:

- NPV - 23 (10 years)
- IRR - 13.71%
- DPP (years) - 7.25
- Project launch period - 2 years
- Revenue - [full cap.] (390, 2 years)
- EBITDA - [full cap.] (34, 2 years)

- **Project Status:**

The project is at the stage of pre-feasibility study. We are In dialogue with equipment manufacturers and engineering companies to start preparing engineering documentation

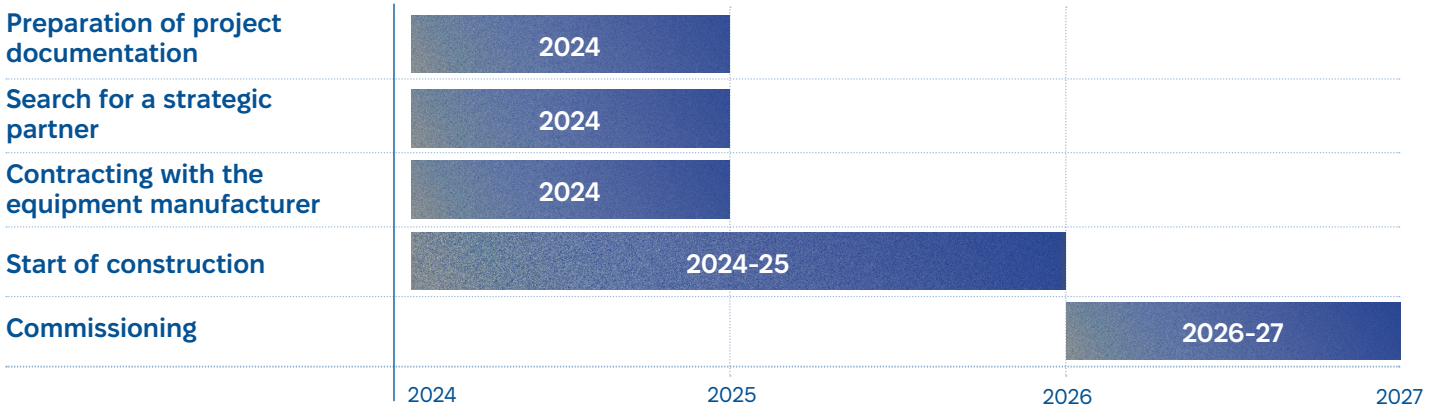
BUSINESS MODEL

- The project is aimed at building a vertically integrated soybean growing and processing ecosystem and is fully export-oriented.
- The high quality of the final product will allow the company to be a player in the premium feed ingredients market in Europe, create added value for its products and ensure stable sales of raw materials for small and medium-sized farmers in the region.

Key partners

Vitagro Group of companies as a key investorю Suppliers of equipment (Alfa Laval, Desmet Engineering, Chemsta, MyAnde, TEFF, ZIKO). Farmers. Looking for strategic partners for entering EU markets

Key Points Of Project Implementation



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AGRICULTURAL

UKRAINIAN HEMP TECHNOLOGIES

INDUSTRIAL HEMP PROCESSING PLANT

RIVNE REGION

- **Brief Description:** Construction of a plant for processing technical hemp that will include preparation of high quality hemp seeds and hemp straw decortication line for fiber and shives production
- **Target Market:** EU countries. Potential customers: manufactures of healthy food, manufactures of ecological building materials, ecological packaging, automotive industries
- **Products/Services:** Hemp seeds, hemp fiber, hemp shives. Services for farmers in fields of growing technical hemp
- **Technologies and Innovations:** Ukrainian technologies and equipment will be used in the project
- **Unique Selling Proposition:**
  - It will be the first industrial hemp processing cluster in the West part of Ukraine
  - Creation a business model for scaling
  - Creation of a resource base for further, deeper processing of hemp and producing value added products

Projects Highlights[1] ($ mln)

Type of financing - debt
Financing structure: CAPEX - 71% / OPEX - 21%

Expected Financial Indicators:

- NPV - (10 years) - 0.4
- DPP (months) - 55
- Revenue - [full cap.] (1.34, 2026 year)
- IRR - 23.9%
- Project launch period - 10 years
- EBITDA - (0.3, 2026 year)

- **Project Status:**
  - Licensed hemp producer since 2022
  - Certified producer of sowing hemp seeds
  - Feasibility study of the first hemp processing plant and preparation for implementation in 2025

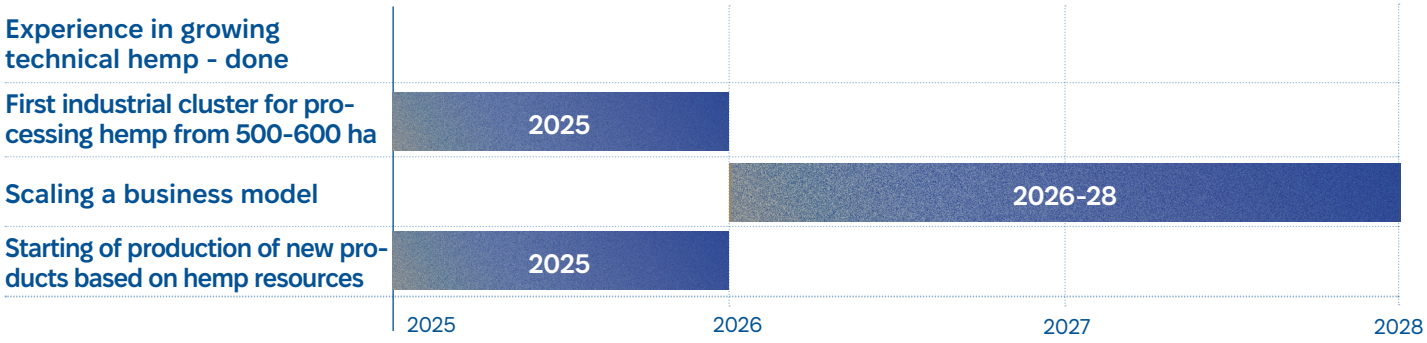
BUSINESS MODEL

- Building a vertically integrated, diversified company with a list of hemp-based products. The business model includes creation an industrial cluster for hemp processing. Then their scaling.
- At the next stage - creation a number of value-added products, both independently and in partnership with other companies.

Key partners

Vitagro group as a key investor. Suppliers of equipment (Ukrainian companies). Farmers. Looking for strategic partners for entering EU markets

Key Points Of Project Implementation



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AGRICULTURE

INTERRESOURCES LTD

KROPYVNYTSKYI

PRODUCTION OF KRAFT PAPER MADE FROM TECHNICAL HEMP

- **Brief Description:** The project creates agricultural cluster of technical hemp, with subsequent processing into white kraft paper. As subproduct, pellets will be produced and used to obtain technological heat and for sale. This approach not only ensures efficient resource utilization but also contributes to waste reduction.
- **Target Market:** Paper - World wide, B2B, companies who use rolled paper as material in their production. Pellets – Ukraine and EU – alternative energy. Seeds – EU – production of hemp oil
- **Products/Services:** Project producers 7k tons of hemp seeds, 20k tons of white kraft paper and 33k tons of pellets.
- **Technologies and Innovations:** Renewable source of paper cellulose, green industrial and household energy.
- **Unique Selling Proposition:** Deep high-value added agricultural product processing, own unique resource base, efficient resource utilization, green accessible local energy.

Projects Highlights[1] ($ mln)

Type of financing - mix of dept and equity
Financing structure: CAPEX – 76% / OPEX – 24%

Expected Financial Indicators:

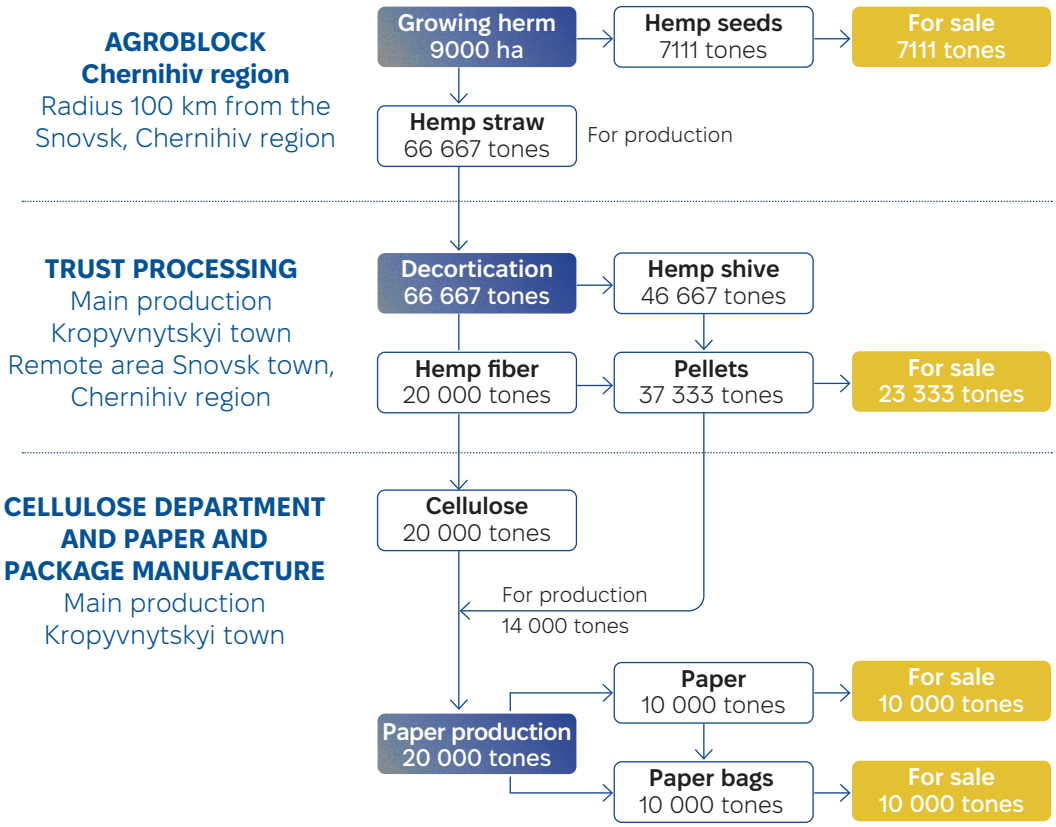
- NPV – (28, 4 years)
- DPP (months) – 66
- Revenue – 50.8, 4 year)
- IRR – 21%
- Project launch period – 3 years
- EBITDA – 17.5, 4 year)

Project Status:

- green field, running agricultural business 5k hectares, land plots for development in ownership

BUSINESS MODEL

- Agriculture: hemp seed planting material production – inhouse. Hemp growth – outsourced to partner agricultural companies, forming two clusters.
- Each cluster will have own decortication and pelleting lines.
- Production: hemp fiber is processed into cellulose and then to paper on main production cite.



AGRICULTURE

TAK-MOLOKO LCC

CONSTRUCTION OF A DAIRY COMPLEX

VINNYTSIA REGION (+TAK AGRO LCC, GROUP OF COMPANIES TAK)

- **Brief Description:** Construction of a dairy complex "TAK-MOLOKO" LLC with a capacity of 1,500 dairy cows in the Vinnytsia region
- **Target Market:** Internal consumers: milk processing enterprises, dairy farms, crop enterprises. External consumers: dairy farms.
- **Products/Services:** milk production; breeding of heifers; growing and harvesting of forage.
- **Technologies and Innovations:** launching a biogas plant to utilize cattle manure and increase the farm's energy independence and energy efficiency, maximizing the transition to organic fertilizers for growing rough and concentrated feed, biologization and restoration of cultivated land.
- **Unique Selling Proposition:** The company's team has many years of experience and the ability to develop a highly efficient dairy complex with guaranteed results. By expanding the existing dairy business, additional jobs will be created both in the farm and in related industries (1:10 ratio), and social stability in rural areas will be maintained

Projects Highlights[1] ($ mln)

Type of financing - Debt financing (IFOs, commercial banks)
Financing structure: CAPEX – 65% / OPEX – 35%

Expected Financial Indicators:

- NPV – (1.9, 5 years)
- DPP (months) – 60
- Revenue – [full capacity] (12, first year after full capacity)
- IRR – 28%
- Project launch period – 1.5
- EBITDA – [full cap.] (4.7, first year after full capacity)

Project Status:

- An existing dairy farm with 430 cows, an existing team of experts, and a developed project concept. Ready for implementation.

BUSINESS MODEL

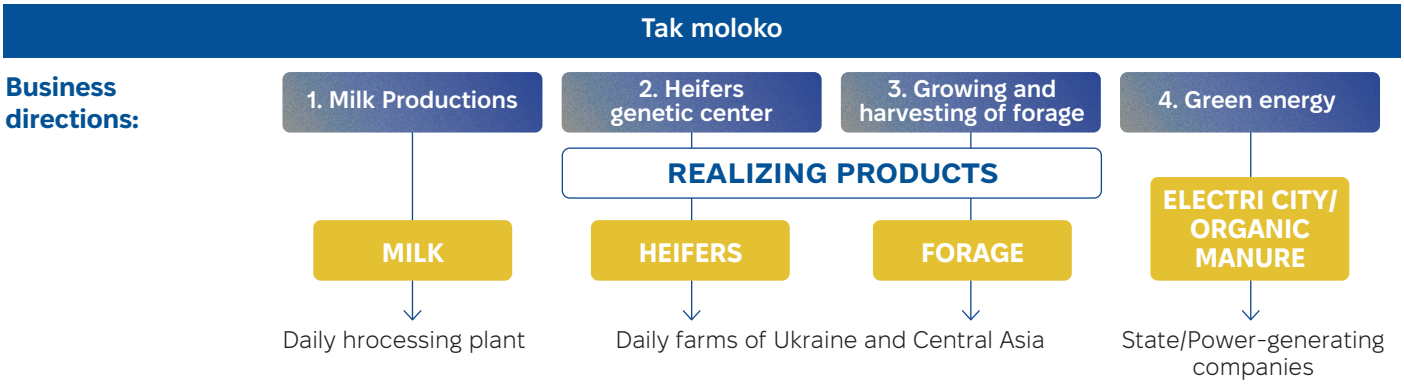
«TAK-MOLOKO» LLC - dairy farm located in the Vinnytsia region, Pogrebyshchensky district, Borshchagivka village. Today, the farm keeps 850 cows, of which 430 are milked. The goal is to create modern highly automated dairy complex with a capacity of 1,500 dairy cows with business directions: milk production; heifers genetic center; growing and harvesting of forage. The company's team (47 employees) has many years of experience and the ability to develop a highly efficient large-scale dairy complex. It will ensure an increase in the supply of price-competitive raw milk, «green» energy, and the expansion of the domestic heifer sales market. Thanks to the expansion of the existing dairy business, additional jobs will be created both in the economy and in related industries (ratio 1:10), European salary levels will be ensured for the employees of the complex, social stability will be supported in rural areas, and conditions will be created for the return of forcibly displaced persons.

KEY POINTS OF PROJECT IMPLEMENTATION:

- Approval of the project, obtaining financing.
- Approval of contractors for construction. Purchase of machinery, animals, equipment
- Construction of a farm and necessary premises
- Beginning of the implementation of the business project at full capacity

Key partners

TAK AGRO LCC (proprietary company) Global Agro Finance LCC (management of dairy farm)
Advisory Centre of the Association of Milk Producers (technology)



AGRICULTURE

ARIA COMMODITIES | GREEN LACTIC

UKRAINE, IVANO-FRANKIVSK REGION, CITY OF BURSHTYN

- **Brief Description:** construction project for a corn processing plant to produce lactic acid using industrial biotechnology method .
- **Target Market:** **lactic acid market** that will grow at **7.8-9.5%** annually. **Main consumers:** companies in the food, cosmetic and pharmaceutical industries, bioplastic manufacturers
- **Products/Services:** Deep Corn Processing, **lactic acid and by-products** (corn gluten, oil, animal feed, corn phosphatide concentrate, and gypsum)
- **Technologies and Innovations:** production using industrial biotechnology method, production automation, purification facilities and renewable energy resources
- **Unique Selling Proposition:**
  - Guaranteed satisfaction of domestic demand
  - Prospects for export
  - Renewable Energy as a Project's Integrity
- **Project Status:**
  - Pre-Development. Negotiations and project presentation to potential investors
  - Production of the finished product is set to commence in 2027

Projects Highlights[1] ($ mln)

Type of financing - internal resources (10-20%) and investment financing (80-90%) - TBD
Financing structure: CAPEX / OPEX (to be calculated)

Expected Financial Indicators:

- NPV – 800
- DPP (months) – 60 (5 years)
- Revenue – [full capacity] (to be calculated)
- IRR – 24.3%
- Project launch period – 3 years 3 month
- EBITDA – [full capacity] (to be calculated)

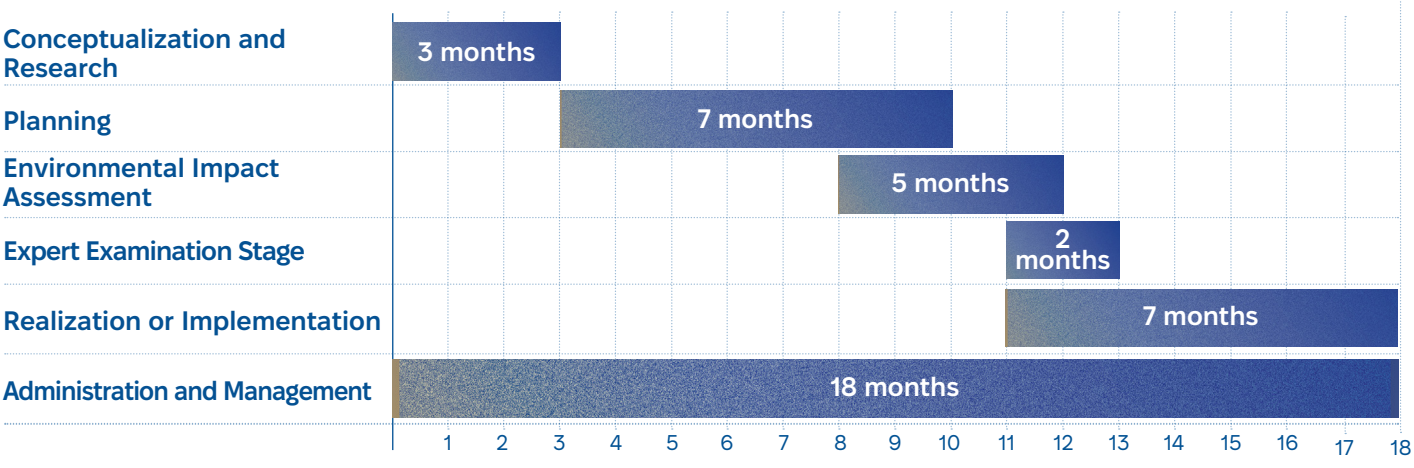
BUSINESS MODEL

- Plant's capacity is **750 tons** of raw material (corn grain) **per day**
- **Income** generated from **exporting lactic acid** and **sales of by-products**
- **Advantages of the location** include **access to water sources** and **excellent logistics**
- Average distance from spot to **Romanian, Hungarian, Slovak** and **Polish** border is about **120-180 km**
- Raw material will be purchased from farms in the western region **(~3.5 mln tons** is grown within a **70 km radius of the plant)**
- Construction will provide over **4 000 new jobs opportunities**

Key partners

ADEPT GROUP (co-investor and technological partner) **CEMSAN, ALFALAVAL,OCYCHINA, SULZER** (equipment and engineering) **SIRIUS CONSULTANCY** (technological consultations, networking)
Local administration, the technological park of the city of Burshtyn, and local farms.

Key Points Of Project Implementation: Implementation Schedule for the Pre-feasibility Stage



[1]The project information and financial indicators are provided by company-initiator of the project.

AGRICULTURE

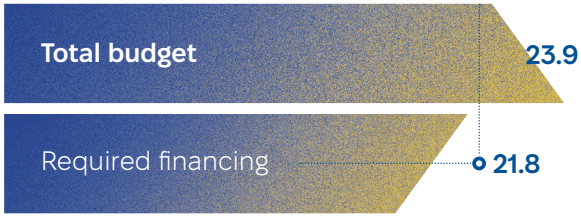
FRUIT WOODLANDS LTD

UKRAINE, VOLYN REGION, LUTSK DISTRICT, VILLAGE OF OMELNE

PROCESSING COMPLEX FOR BLUEBERRIES

- **Brief Description:** Project aims to develop a 90-hectare blueberry plantation and a processing complex for cooling, sorting, and storing blueberries using advanced Dutch technology for efficient production and high-quality output.
- **Target Market:** The EU market, particularly the UK, which experiences internal shortages during the harvest period in Ukraine (according to research by the International Blueberry Organization (IBO)).
- **Products/Services:** Blueberries cultivated on-site -1540 MT year. Sorting and selling blueberries from other producers-1580 MT year.
- **Technologies and Innovations:** The project incorporates advanced Dutch technologies, ensuring protection against various risks including frost, rain, wind, bird damage, power outages etc.
- **Unique Selling Proposition:** According to IBO research, during the blueberry harvest period in Ukraine (June-September), there is a shortage of quality berries on the market, especially on the UK market. Implementation of the project makes it possible to grow blueberries and

Projects Highlights[1] ($ mln)



Type of financing - grant, project finance, debt, equity
Financing structure: CAPEX – 78% / OPEX – 22%

Expected Financial Indicators:

- NPV – 1.7, 10 years
- DPP (months) – 98
- Revenue – [full cap.] (13.55, 2030 year)
- IRR – 15.98 %
- Project launch period – 2 years
- EBITDA – [full cap.] (4.25, 2030 year)

- **Project Status:**

The project is under implementation. In 2020, the first phase was completed with 17 hectares of blueberries planted, an 8,000 cubic meter water storage pool built, and a pumping station established for irrigating 50 hectares of plantations.

BUSINESS MODEL

The primary source of income for our project is from selling blueberries cultivated on-site. We also generate additional revenue by utilizing our sorting complex to process blueberries from other producers, including during the off-season in Ukraine, sourcing from international markets such as Peru, Chile, and South Africa. The field is located in Omelne Village, Volyn Region, Ukraine. It is 156 km from the Polish border, 777 km from the port of Gdansk, 806 km from the port of Odessa, 432 km from the cargo terminal at Warsaw airport, and 196 km from Lviv airport.

The initial planting of berry bushes, covering an area of 17 hectares, was completed in 2020. Existing activity data confirm the feasibility of expanding operations to cover the full 90-hectare site.

The project aims to provide significant employment opportunities, with the potential to attract and settle 400 workers, offering them competitive wages and the chance to return from abroad.

Key partners

Design works - «van Oostrum Woerden», «FFT Projects BV.», The Netherlands. Construction - LLENTAB AB, Sweden, refrigeration equipment - VAN KEMPEN and VAN AMERONGEN, Netherlands. Sorting machines - Elifab Solutions, Spain. Seedlings - world leader company Fall Creek®. Protection against: frost - wind machines «ORCHARD RITE», France; from rain, hail and wind - «Haygrove», England, «Valente S.r.l.», Italy; from birds «Bird Control Group», Netherlands.

Key Points Of Project Implementation

2025 year

· Purchase of seedlings;
· Start of construction of sorting complex, dormitory;

2026 year

· Planting of seedlings;
· Construction of protection systems against frost, rain, wind, and birds;
· Purchase of equipment for the sorting complex and dormitory;
· Purchase of transport vehicles for blueberry transportation;
· Launch of a dormitory for staff and a sorting complex, on its own 14 hectares · Purchase blueberries from other producers

[1] The project information and financial indicators are provided by company-initiator of the project.

PRODUCTION (PROCESSING INDUSTRY)

MA'RIJANY HOLDING LLC

ZHYTOMYR REGION, UKRAINE

MA'RIGANY HEMP COMPANY LLC MA'RIJANY AGRO LLC
MA'RIGANY ESSETS LLC "Volodarsko-Volynskiy flax plant" PSJC

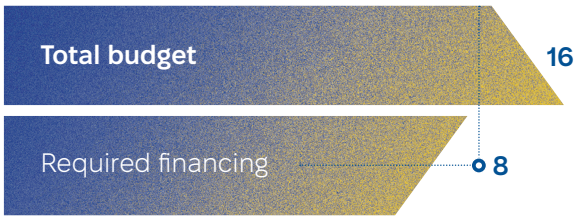
PROCESSING INDUSTRIAL HEMP INTO LONG FIBER

- **Brief Description:** MA'RIJANY project is implementing the first modern production of long textile fiber from industrial hemp in Ukraine. The goal is to create a business for the primary processing of hemp stalk with the subsequent production of long hemp fiber for the textile industry (main business), short fiber and shives (by-products of processing)
- **Target Market:** Worldwide supplier of hemp fiber. The focus for long hemp fiber is on the European textile market, primarily supplying spinning mills and fabric manufacturers. Short hemp fiber will be utilized in the local Ukrainian market by partnership companies as a raw material for nonwoven and construction materials. Hemp shives (hurd), as an eco-friendly, will be utilized in the local market by the farming, insulation, and construction industries
- **Products/Services:** primary processing of hemp stalks with the subsequent production of long hemp fiber for the textile industry (main business), short fiber and shives (by-products of processing)
- **Technologies and Innovations:** A state-of-the-art primary processing line for bast crops (industrial hemp and flax) will be installed. For efficient sorting of primary processing products, the long fiber line is equipped with an auxiliary short fiber line. Purchased 2 modern harvesters. Contracts for the supply of balers for baling hemp trusts in the field were concluded.

BUSINESS MODEL

- **Hemp cultivation:** We are engaging local farmers through contracts for hemp cultivation with a guaranteed buyout of the yield. We also manage our own farming operations to grow and harvest hemp.
- **Hemp harvesting:** We are providing harvesting services to local farmers, enhancing efficiency and reducing their operational expenses.
- **Fiber extraction:** We are utilizing mechanical decortication processes to extract hemp fibers from the straw, producing various lengths of hemp fibers and by-products such as hemp shives.
- **Product sales:** Long fibers will be supplied to spinning mills and textile manufacturers (main product for export), short fibers will be supplied to nonwoven fabric producers and automobile manufacturers (possible export), and shives will be sold to farmers for agricultural use and to construction companies.

Projects Highlights[1] ($ mln)



Type of financing - Equity, private investing
Financing structure: CAPEX – 80% / OPEX – 20%

Expected Financial Indicators:

- NPV – 27.7 (10 years)
- IRR – 25.5%
- DPP (months) – 39
- Project launch period – 5
- Revenue – 14.3 (2027 years)
- EBITDA – 9.1 (2027 years)

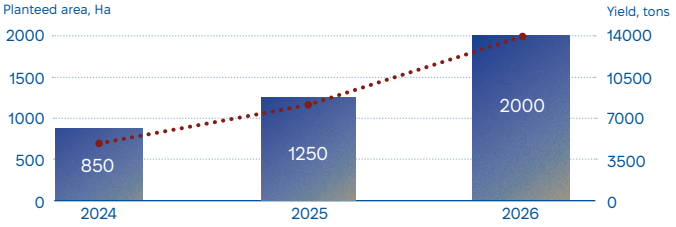
- **Project Status:**

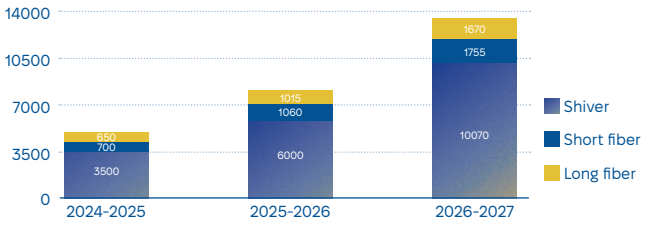
- Funding has been raised from private investors, covering about 50% of the project budget;
- Official letters of intent with defined procurement volumes were received from key customers - leading European companies;
- Obtained a license for the cultivation of industrial hemp;
- Seeding works on an area of about 540 hectares have begun;
- A contract for the supply of main production equipment from a leading global manufacturer has been concluded;
- Construction and renovation works on the site are currently underway.

Key partners

- Institute of Agriculture of the Northeast, Institute of Bast Crops of the National Academy of Agrarian Sciences of Ukraine - supplier of licensed hemp seeds and agricultural oversight;
- Spinning mills in Europe - main clients for our entire textile fiber.
- Manufacturers of equipment and agricultural machinery;
- Manufacturers of building materials, nonwovens, fuel and paper producers, bus manufacturers - consumers of short hemp fiber and firewood
- State Service of Ukraine on Medicines and Drugs Control - granting licenses and quotas for the cultivation of industrial hemp

FURTHER DEVELOPMENT 2024-2027





AGRICULTURE

FLORIA-UKRAINE LLC

THE GREENHOUSE COMPLEX FOR GROWING VEGETABLES

UKRAINE. RIVNE REGION VOLODYMYRETSKY DISTRICT, VILLAGE OF ZABOLOTTA

- **Brief Description:** Construction of a greenhouse complex with an area of 6 hectares. (productive area 5.8 ha) on the basis of the existing business, which has been successfully operating since 2008. The goal is to grow vegetables (cucumbers 70% and tomatoes 30%).
- **Target Market:** The target market is Ukraine, countries of the European Union.
- **Products/Services:** Our operations include the cultivation of cucumbers and tomatoes within 2 greenhouse complexes, totaling 2.4 hectares. We are planning to expand cultivation into a new greenhouse facility.
- **Technologies and Innovations:** Modern efficient equipment is used. A competitive advantage is gained through a special tariff for thermal energy at the enterprise.
- **Unique Selling Proposition:** Practical experience in growing crops. Unsaturated sales markets for implementation. Energy advantages in the cost structure due to special heat tariffs. Modern technological equipment.

Projects Highlights[1] ($ mln)

Type of financing - grant, project finance, debt, equity
Financing structure: CAPEX – 79% / OPEX – 21%

Expected Financial Indicators:

- NPV – 15,450, 10 years
- DPP (months) – 120
- Revenue – [full capacity] (15.05, 2035 year)
- IRR – 33%
- Project launch period – 2 years
- EBITDA – [full cap.] (4.235, 2035 year)

- **Project Status:**
The project is prepared for the start of construction works, with all relevant permission documents obtained. Technical conditions for connection to heat networks have been addressed, along with permission to use land and water bodies located in the sanitary protection zone. Additionally, permission to develop urban planning documentation for the greenhouse complex project has been secured

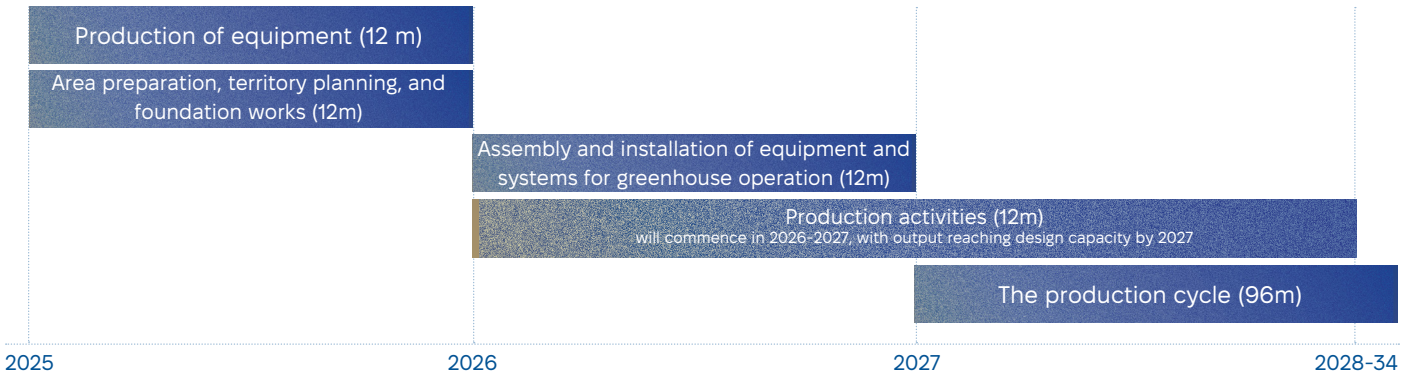
BUSINESS MODEL

The main source of income is derived from the sale of vegetables cultivated within a greenhouse complex spanning 6 hectares (productive area 5.8 hectares). Additional profit is generated from the sale of vegetables cultivated in existing greenhouse complexes. Our project is already operational, supported by modern equipment that is regularly maintained. Our company launched its first greenhouse in 2008 and maintains a positive credit history. We have successfully secured investment bank financing for the implementation of a greenhouse complex covering 1.6 hectares. The project will create employment opportunities, allowing approximately 80 workers to return from abroad and be employed and accommodated at competitive wages.

Key partners

During construction, the greenhouse complex utilized state-of-the-art equipment from firms such as «Netafim» and «Groutek Holland Den Haier». Plans are underway to incorporate Dalsem ReVoX Systems. Our company collaborates with Dalsem, a trusted partner and supplier since 1932.

Key Points Of Project Implementation



[1]The project information and financial indicators are provided by company-initiator of the project.

CULTIVATION AND PROCESSING

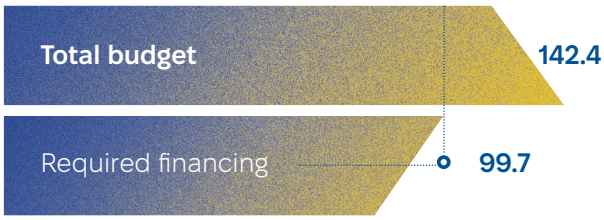
GLOBYNSKYI M'YASOKOMBINAT LLC
TERRA AGRICULTURE LLC

UKRAINE, POLTAVA REGION, KREMENCHUK DISTRICT, HLOBYNE TERRITORIAL COMMUNITY

CONSTRUCTION OF FACILITIES FOR INCUBATION, FATTENING AND PROCESSING OF BROILER CHICKENS

- **Project objectives:**
  - Creation of a raw material base for the production of semi-finished products and sausages under Globino ™
  - Quality control and ensuring sustainable volumes of chicken for LLC "GLOBYNSKYI M'YASOKOMBINAT"
  - Sales of chilled chicken to the EU market and increasing competition on the Ukrainian market
- **Target Market:**
  - National networks of Ukraine (ATB, Silpo, Novus, METRO, Auchan Ukraine)
  - HORECA
  - Processing companies (LembergMit LLC, SMK group)
  - Countries of the European Union
- **Products/Services:**
  - egg incubation, rearing of broiler chickens, production of chilled chicken, semi-finished products and culinary products, provision of slaughtering services.
- **Technologies and Innovations:**
- **Equipment from leading European manufacturers:**
  - incubator equipment - HatchTech incubation technology
  - equipment for fattening buildings - Big Dutchman
  - slaughter line - Meyn Poultry Processing Solution.
- **Processing of livestock waste products at the bioenergy complex**
- **Unique Selling Proposition:**
  - the opportunity to expand into the European market;
  - availability of chicken processing facilities;
  - support for competition in the national market.

Projects Highlights[1] ($ mln)



Type of financing - debt
Financing structure: CAPEX – 83.8% / OPEX – 16.2%

Expected Financial Indicators:

- NPV – 3.65 (5 years)
- DPP (months) – 60
- Revenue – 327,129.4 (4 year)
- IRR – 35.8%
- Project launch period – 3
- EBITDA – 111.5 (4 year)

- **Project Status:**

  The project at the implementation stage. The following agreements were concluded: for land for fattening sites, for the design of the slaughterhouse, feed line and fattening buildings; environmental impact assessment permits were obtained;

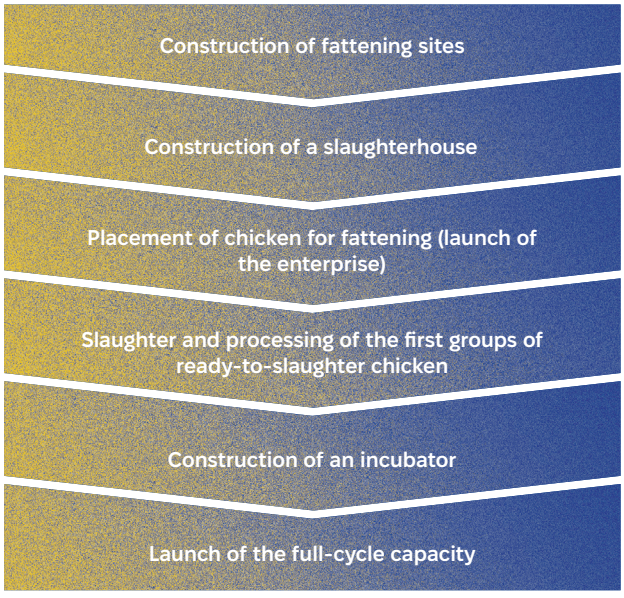
BUSINESS MODEL

«GLOBINO» is a modern group of companies that unites 5 independent enterprises under the same brand name. It's a well-known trademark in Ukraine and has long history of cooperation with retail chains. TERRA AGRICULTURE LLC will join the group and complement the production cycle as a supplier of raw materials and consumer of crop production.for agricultural use and to construction companies.

Key partners

Consumers: ATB-Market LLC, Fozzy-Food LLC, Epicenter K LLC, VOG Retail LLC, Metro Cash & Carry Ukraine LLC, Auchan Ukraine Hypermarket LLC, Omega LLC, Fora LLC, Novus Ukraine LLC. **Suppliers:** LLC «SPE «Globinsky Pig Complex», Private Joint Stock Company «MHP», Matimex, Shaller, Travaglini, ProTec, Alfa Laval, Evapco, Cryovac, Brauer, Big Dutchman, Shauer and others. **Financial institutions:** EBRD, IFC, LBBW Landesbank Baden-Wurttemberg

Key Points Of Project Implementation:



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