

Total socio-economic
contribution of the Astarta-
Kyiv to the Ukrainian
economy in 2020



EY

Building a better
working world

Table of Contents

1. About the Report	<u>3</u>
2. Summary	<u>4</u>
3. About the Company	<u>7</u>
4. 15 years of Astarta being listed on the stock exchange	<u>11</u>
5. Results of assessment of Astarta's total contribution to the Ukrainian economy in 2020	<u>16</u>
5.1 Contribution to output	<u>17</u>
5.2. Contribution to GDP	<u>22</u>
5.3. Contribution to employment	<u>25</u>
5.4. Contribution to labour income	<u>29</u>
5.5. Contribution to tax revenues of the state	<u>32</u>
6. Capital investments	<u>36</u>
7. Export of products	<u>39</u>
8. Investment in social and environmental projects	<u>43</u>
9. Research methodology	<u>49</u>

1. About the Report

Any market economy functions and develops as the result of business activities. The contribution of business to the economy is multilateral: in addition to providing products and services, the business also invests in the development of regional infrastructure, innovation and new technologies. Business activities create demand for products of other sectors of the economy, which has a positive impact on the economic success of regions and the country in general.

This report is devoted to the comprehensive assessment of the impact of the agri-industrial holding Astarta-Kyiv (hereinafter Astarta or Company) on the economic development of Ukraine.

Scope of the report:

This study presents the results of the assessment of the total socio-economic contribution of Astarta (Astarta-Kyiv LLC and its 33 subsidiaries) to the economy of Ukraine in 2020.

Research methodology:

The methodology for estimating the total socio-economic contribution of Astarta to the economy of Ukraine was based on the model of "input-output" (intersectoral balance) of Nobel Prize winner V. Leontiev. The approach to assessing the contribution included an analysis of both direct and indirect and indirect effects from Astarta's activities.

The direct contribution is the result of Astarta's activities, such as the added value created by the Company, the number of jobs in the Company, the amount of taxes paid, etc. Other types of contribution are formed through the impact of Astarta on the formation of demand for products of other industries. In particular, **the indirect contribution** is generated due to the Company's purchases on the domestic market. **The induced contribution** is generated through the consumer costs of Astarta employees and employees of its suppliers and contractors. Astarta contractors and suppliers, as well as companies that produce consumer goods and services for Astarta employees, also make purchases, pay salaries to their employees and pay taxes. As a result, indirect and induced effects are spreading across Ukraine's economy.

Thus, the **total contribution**, which is the sum of direct, indirect and induced contributions, deeply and comprehensively characterizes the impact of Astarta on the economy of Ukraine. This report analyses the total contribution of Astarta on the following indicators: output, GDP, employment, income, government revenue.

In addition, the report contains sections on Astarta capital investments, the Company's export performance and its social and environmental investments.

2. Summary

Business is the basis of the country's economic development, because it is entrepreneurial activities that generate economic benefits, create jobs, improve wellbeing, and fills the state budget with taxes. In addition, business supports related sectors of the economy, which are the source of goods and services for its production activities. Therefore, the approach to assessing the total contribution of an individual company to the economy goes beyond its immediate results and takes into account a wide range of drivers.

The agri-industrial holding Astarta-Kyiv (hereinafter Astarta or the Company) is one of the largest agricultural companies in Ukraine, which has been actively developing since 1993. The Company is engaged in cultivation of crops and oilseeds, production of sugar and dairy products, soybean processing and other activities. Astarta also provides grain and oilseeds storage and processing services.

In 2020, agriculture, forestry and fisheries accounted for 9.3% of Ukraine's GDP, and the share of exports of agriculture and food industry was 45.1% of the total exports of goods from Ukraine. This is the indication that the agricultural sector is one of the key components of Ukraine's economy, and its development significantly impacts the economic success of the country.

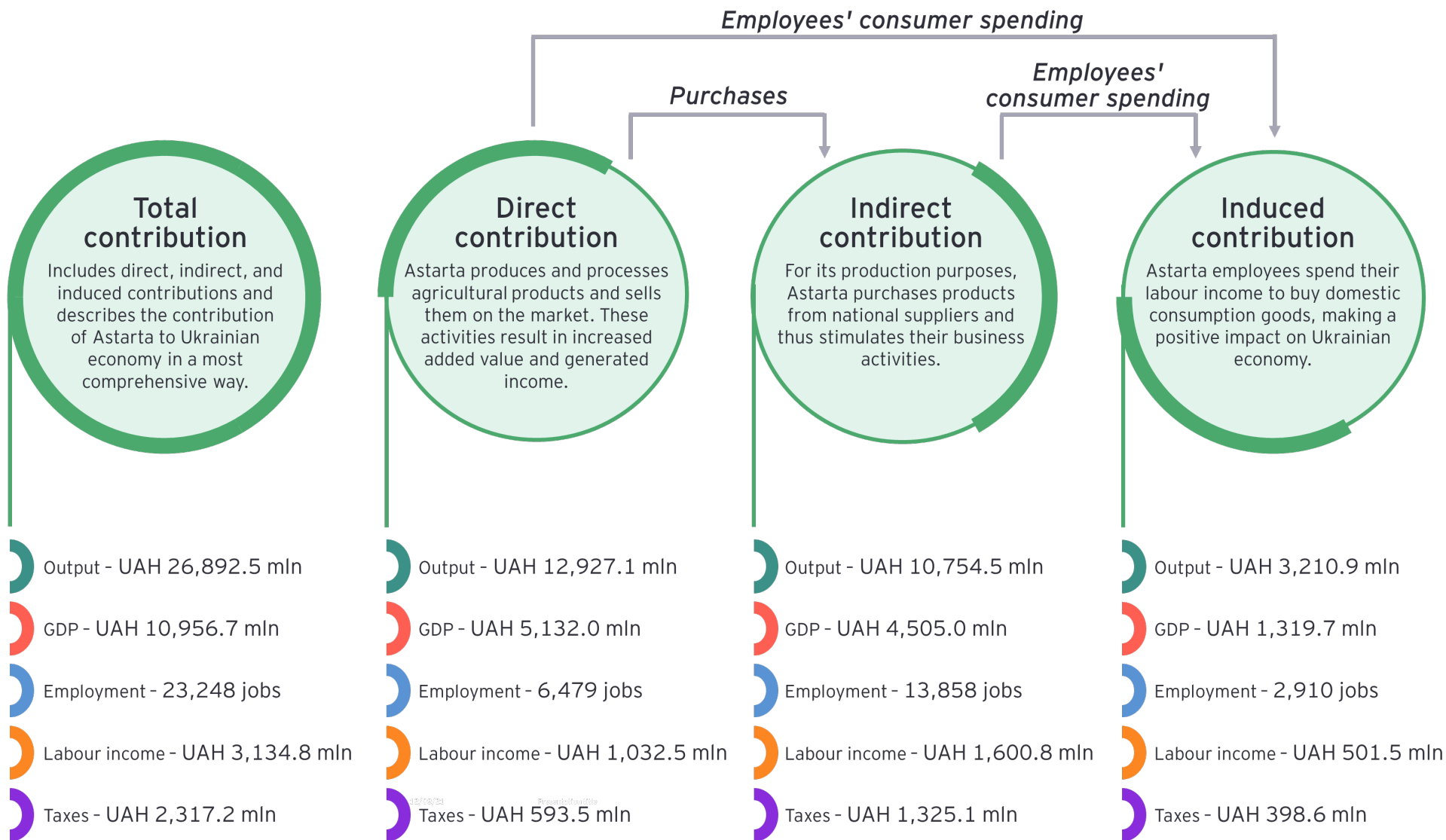
Astarta promotes the incorporation of modern agricultural technologies, as well as rational land use approaches and practices. Astarta makes a significant contribution to

employment in Ukrainian regions, pays taxes to the local budgets.

Astarta finances and implements social projects, thus supporting rural development. The Company makes most of its social investments to support the activities of charitable foundations and public organizations, development of infrastructure and improvement of the regions, the support of education and medicine, culture and sports.

In 2020, Astarta invested UAH 24.6 million in order to overcome the effects of the COVID-19 pandemic. The funds were used to help rural hospitals, purchase medical equipment and personal protective equipment.

Astarta is one of the key players in the Ukrainian and global agricultural market. By introducing new technologies, upgrading equipment and enhancing production facilities, it maintains healthy competition in the market. This, in turn, stimulates the development of the entire agricultural sector of Ukraine. Astarta also implements best corporate culture and work ethic practices, creates comfortable working conditions for its employees and provides them with income. Moreover, the Company purchases products from other sectors of the economy, which stimulates the development of such sectors. In addition, the employees of Astarta support local producers while spending their income on consumer goods and services in the domestic market.



Multiplier effect
the extent of Astarta's direct impact on the Ukrainian economy

UAH 2.08 of output is generated in the Ukrainian economy per each UAH of Astarta's output

UAH 2.13 of GDP is generated in the Ukrainian economy per each UAH of Astarta's added value

3.59 jobs are maintained in the Ukrainian economy per each job in Astarta

UAH 3.04 of labour income of the total Ukrainian population accounts for each UAH of Astarta payroll

UAH 3.90 of taxes are paid to the benefit of the state per each UAH of Astarta's tax payments

Astarta indirect and induced contribution by sector in 2020,
% of the total amount of indirect and induced contributions by each of the indicators

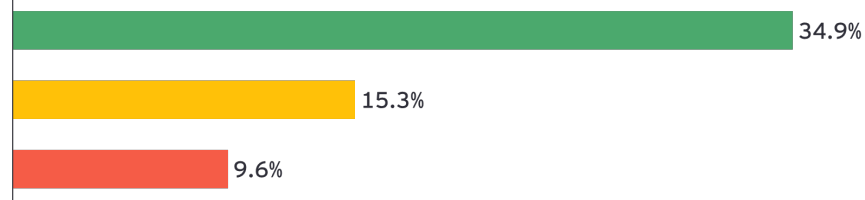
Contribution to output



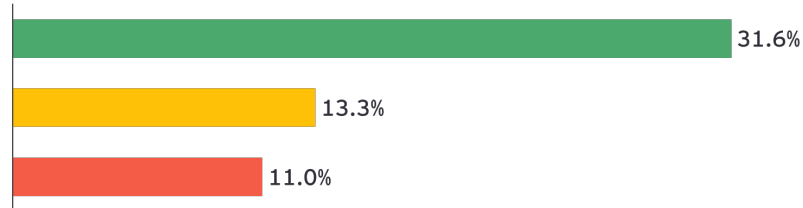
Contribution to GDP



Contribution to employment



Contribution to labour income



Through its indirect (procurement) and induced (consumer spending) contributions, Astarta stimulates the development of other sectors of the economy.

Contribution to capital investments

In 2020, Astarta's capital investments reached **UAH 457.1 mln**, or 0.09% of the total capital investments in Ukraine. Astarta implements investment programs to upgrade equipment, agricultural machinery and integration of IT systems. The Company account for 1.25% of the total capital investment in the agriculture.

Contribution to exports

During 2020, Astarta exported 11 categories of agricultural products to more than 30 countries. The total value of the holding's exports amounted to **USD 236,575.2 thousand**. Corn, wheat, oil cake and soybean oil dominate in the Company's exports. In the reporting year, Astarta accounted for 1.07% of the total Ukrainian exports of agricultural products and food.

Contribution to social investment

Social investments and charitable expenses of Astarta amounted to **UAH 53.7 mln** in 2020. The largest share of expenditures (UAH 24.6 mln) was spent to address COVID-19 pandemic. Other areas of social investment included contributions to charitable foundations and NGOs, infrastructure development and provision of public amenities, education, etc.

3. About the Company



About the Company

Astarta is a vertically integrated agri-industrial holding that provides a complete production process due to the synergy of its own enterprises. Astarta is one of the largest companies in the Ukrainian agricultural sector and ranks among the TOP-5 agricultural producers in Ukraine in terms of output and land bank¹.

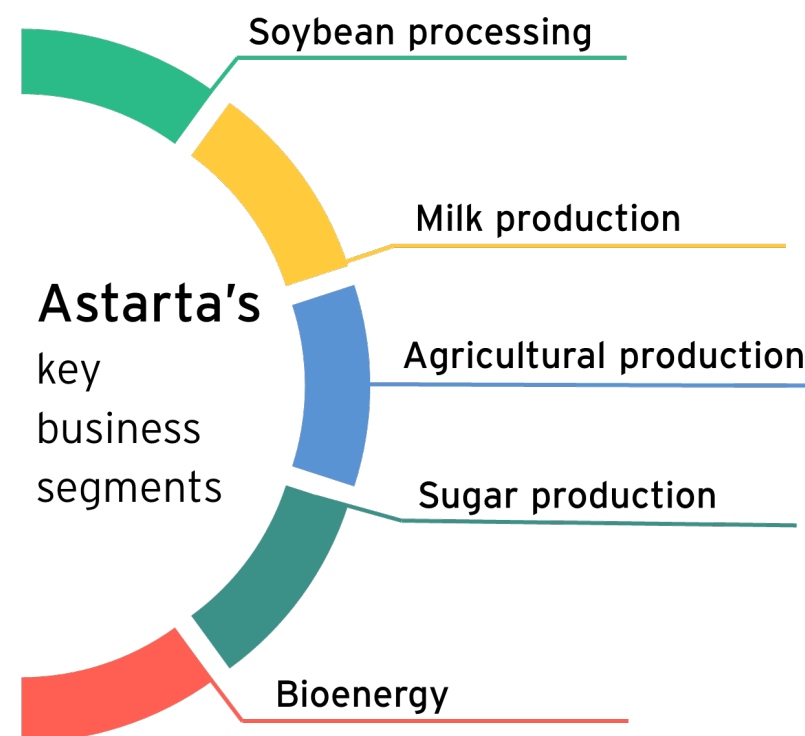
History of the Company

The Company was founded in 1993, however the agricultural business started in 1997, when the first agricultural company in the Poltava region was acquired. From 1999 to 2005, Astarta acquired 5 sugar refineries and started producing sugar products. In 2006 Astarta became a public company, with its shares listed on the Warsaw Stock Exchange.

The year 2014 was an important step towards further development and opening new industrial horizons for the company: a soybean processing plant and a biogas complex were put into operation. Thus, by 2020, Astarta had elaborated an effective business model that has included it into the list of the largest sugar, oilseeds and grain producers in Ukraine.

Areas of activity

The core activities of the Company are related to the cultivation of agricultural products, processing and trade, and providing Ukrainian industrial consumers and households with high quality sugar and milk.



¹ For more details on the rating, please see <https://latifundist.com/rating/top100#314>

Since 2016, Astarta has been actively implementing organic farming. Thus, in 2020, the first 3.5 thousand tons of organic products were harvested on agricultural lands of Poltava region with an area of 2 thousand hectares.

Geographical scope of activities and production capacities

Astarta includes agricultural enterprises with a land bank of about 220 thousand hectares in 7 Ukrainian regions:

-  **Poltava region**
-  **Vinnytsia region**
-  **Zhytomyr region**
-  **Ternopil region**
-  **Khmelnyskyi region**
-  **Chernihiv region**
-  **Kharkiv region**

The largest production capacities of the Company are concentrated in Poltava, Khmelnytsky and Vinnytsia regions, where 6 sugar refineries are located. The Company is actively investing in the modernization of its production facilities and energy efficiency programs, and its key priority is the highest possible product quality. Astarta sugar refineries are certified according to 32 international management systems: quality (ISO 9001), food safety (ISO 22000 and FSSC 22000), environmental management (ISO 14001), occupational

health and safety management (ISO 45001) and energy management (ISO 50001).

The Astarta elevator complex consists of 7 high-tech elevators located in Poltava, Khmelnytsky and Vinnytsia regions. The total storage capacity of the elevators is over 550 thousand tons of grain. The Company's elevators are certified according to the international quality management (ISO 9001), occupational health and safety (ISO 45001), food safety (ISO 22000) and environmental management (ISO 14001) systems.

Astarta is one of the largest milk producers in Ukraine, and the cattle stock on the Company's farms is more than 22,000. The company ensures high quality through regular investments in farm equipment and animal welfare and feed quality.

Values

The agri-industrial holding Astarta-Kyiv runs socially responsible business and produces products in line with the global market standards, as well as focuses on innovative solutions, investing in intensive agriculture projects. Every year the Company is engaged in the infrastructure development and supports start-ups in the agricultural industry, develops cooperation with industry and professional associations, trade unions and local authorities, promotes the development of professional education and applied research in Ukraine.

In 2020, Astarta continued developing public-private partnerships, introducing deep processing and organic

Key results in 2020

In 2020, Astarta harvested 811 thousand tons of grain and oilseeds, 1.5 million tons of sugar beet and produced 93 thousand tons of milk and almost 226 thousand tons of sugar. According to the Company's results in 2020, Astarta maintains its leading position in the sugar industry of Ukraine

agricultural production.

One of the important achievement of Astarta in 2020 is the establishment of the Centre for Partnership with Independent Farmers, which contributed to the development of a systematic approach to doing business.

Astarta is:

≈ **220** thousand ha
land bank

22 thousand
head of cattle

7
elevators

6
sugar refineries

in **8**
Ukrainian regions

In 2020:

33%
total revenue growth
from last year

811 thousand tons
of grain and oilseeds
harvested

1.5 mln tons
of sugar beet
harvested

152 thousand tons
of soya beans
produced

EUR 113 mln
EBITDA

20%
sugar production market
share

226 thousand tons
of sugar produced

93 thousand tons
of milk produced

4. 15 years of Astarta being listed on the stock exchange



15 years of Astarta being listed on the stock exchange

In August 2006, Astarta became the first Ukrainian company to make an IPO on the Warsaw Stock Exchange. The IPO contributed to the rapid economic development of the Company. Over the 15 years since the Company was listed on the stock exchange, Astarta multiplied its production and expanded its activities. Now Astarta is one of the leading companies in the agricultural sector of Ukraine.

Astarta's success and growth have a positive impact on Ukraine's economy. As the Company expands, it increases the volume of production, provides jobs and wages to more employees, and increases tax payments. Astarta's growing needs in raw materials and supplies prompted it to intensify procurement activities, which, in turn, stimulated the economic development of other domestic producers in related sectors.

The funds mobilized through the Warsaw Stock Exchange served as a powerful impetus for Astarta further development. Now Astarta is an advanced agri-industrial company with transparent activities and the reputation of a reliable business partner. The company invests in infrastructure development and makes social investments, pays taxes and levies to the local budget, and therefore contributes to improving the welfare of local communities.

Over 15 years of its activities of being listed on the Warsaw Stock Exchange, Astarta:

spent **UAH 599 mln** on staff salaries

made **USD 645 mln** of capital investments

spent **USD 341 mln** on land lease liabilities

paid **USD 372 mln** of taxes in favour of the state

paid **USD 236 mln** of bank interest on loans

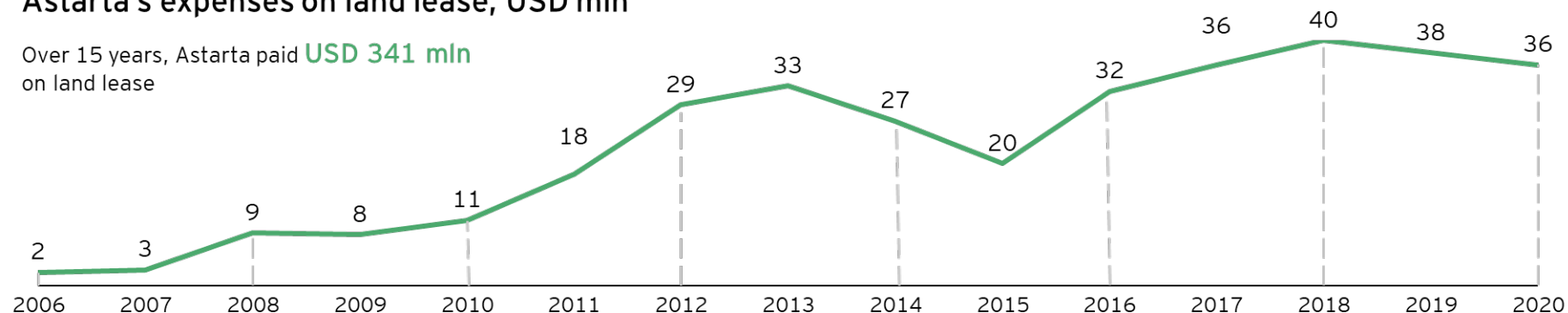
invested **USD 23 mln** in social projects

Astarta is a responsible borrower and a reliable partner

Since the establishment, Astarta has demonstrated the reputation of a reliable and trusted partner. The company consistently pays interest on existing loans, pays land lease obligations, and meets all its obligations to contractors and suppliers.

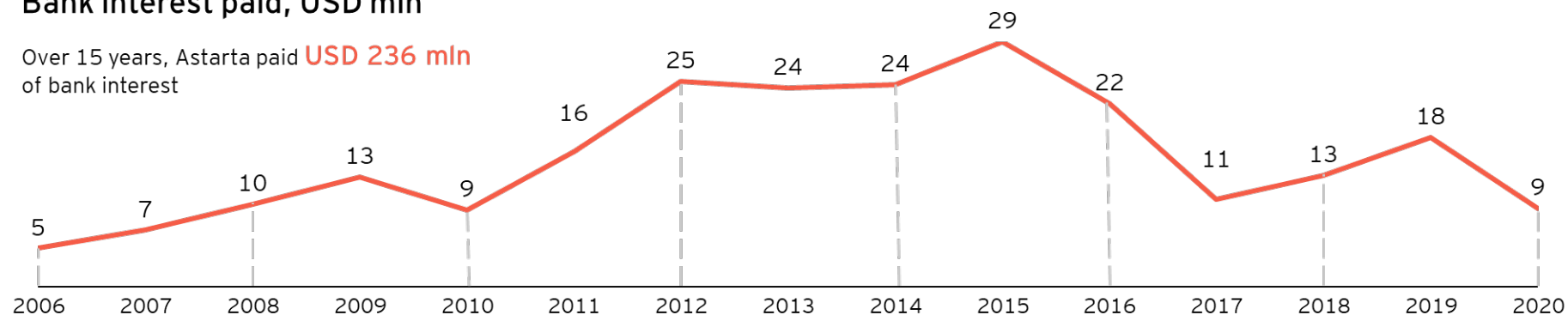
Astarta's expenses on land lease, USD mln

Over 15 years, Astarta paid **USD 341 mln** on land lease



Bank interest paid, USD mln

Over 15 years, Astarta paid **USD 236 mln** of bank interest

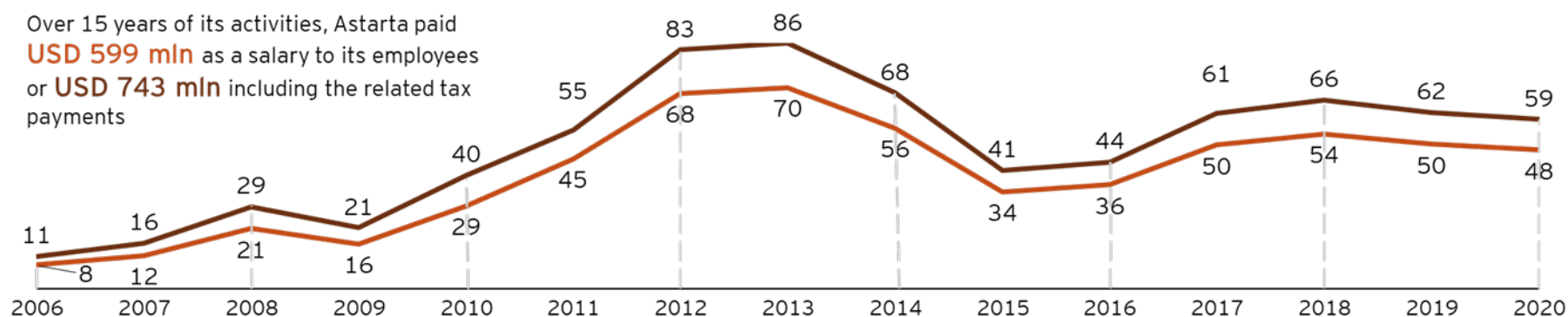


Astarta's contribution to the social development of Ukraine

Astarta regularly invests in socially significant projects in various areas and responds accordingly to the social challenges faced by the society. The Company provides its employees with comfortable working conditions and pays a decent salary.

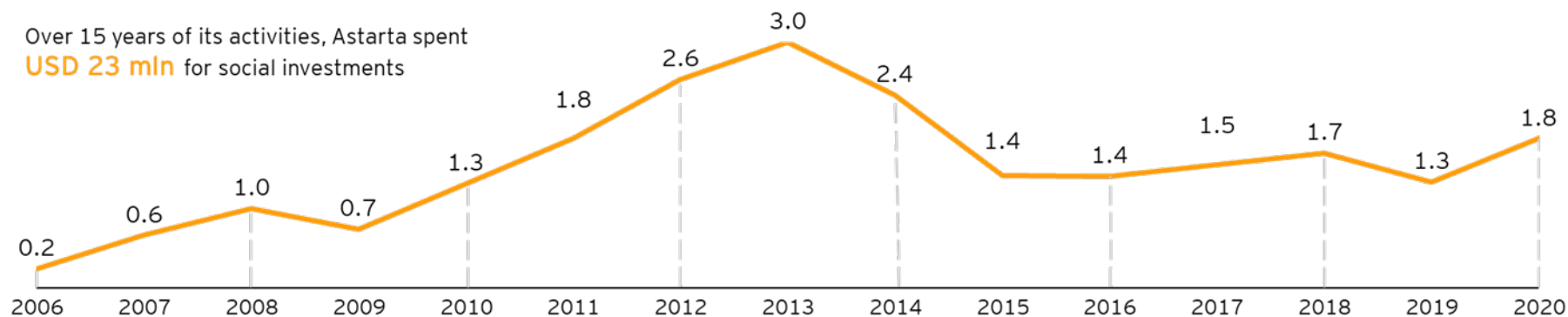
Astarta's payroll expenditures, USD mln

Over 15 years of its activities, Astarta paid **USD 599 mln** as a salary to its employees or **USD 743 mln** including the related tax payments



Astarta's social investments, USD mln

Over 15 years of its activities, Astarta spent **USD 23 mln** for social investments

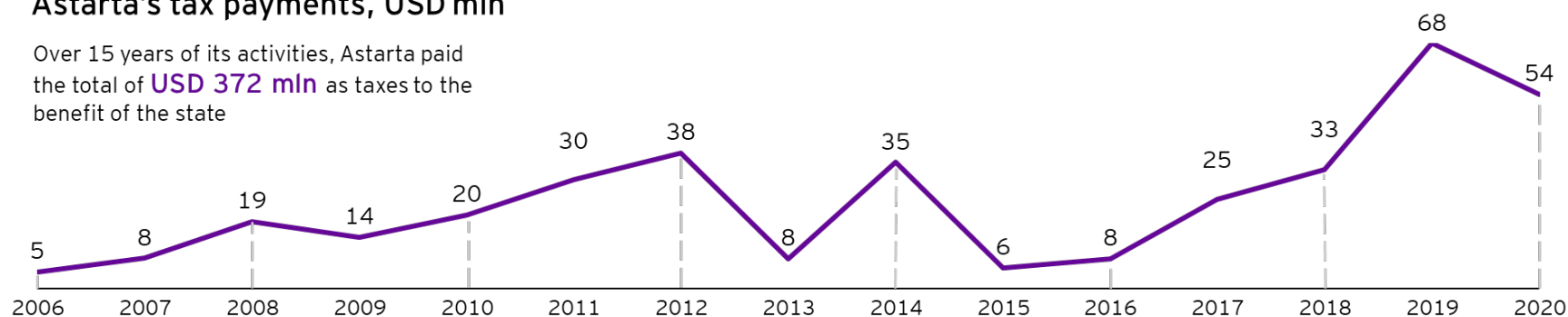


Astarta's contribution to the government tax revenues and infrastructure development

Astarta is a bona fide taxpayer. Due to the Company's tax payments, the national and local budgets of Ukraine receive revenues. Also, since the establishment, Astarta implemented several large-scale investment programs, which contributed to the introduction of new technologies and increased efficiency of production processes.

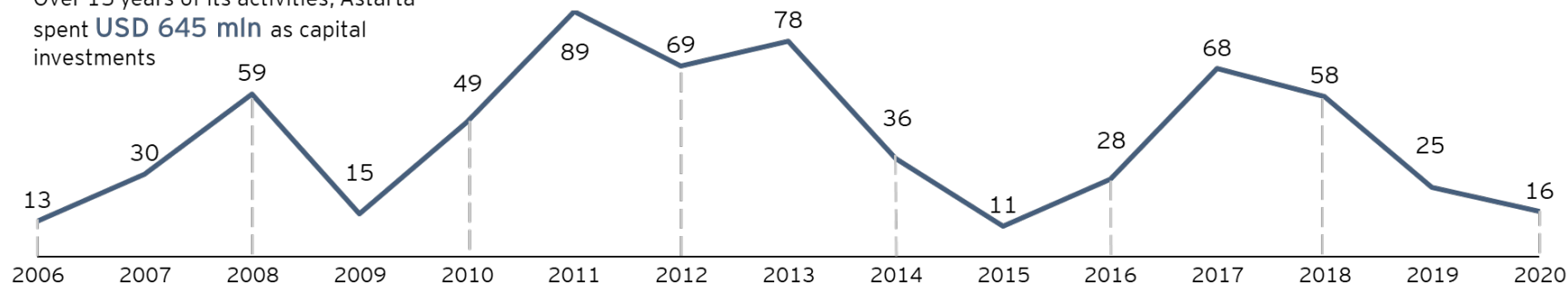
Astarta's tax payments, USD mln

Over 15 years of its activities, Astarta paid the total of **USD 372 mln** as taxes to the benefit of the state



Astarta's capital investments, USD mln

Over 15 years of its activities, Astarta spent **USD 645 mln** as capital investments



5. Results of assessment of Astarta's total contribution to the Ukrainian economy in 2020

The section describes the contribution of Astarta by the following indicators:

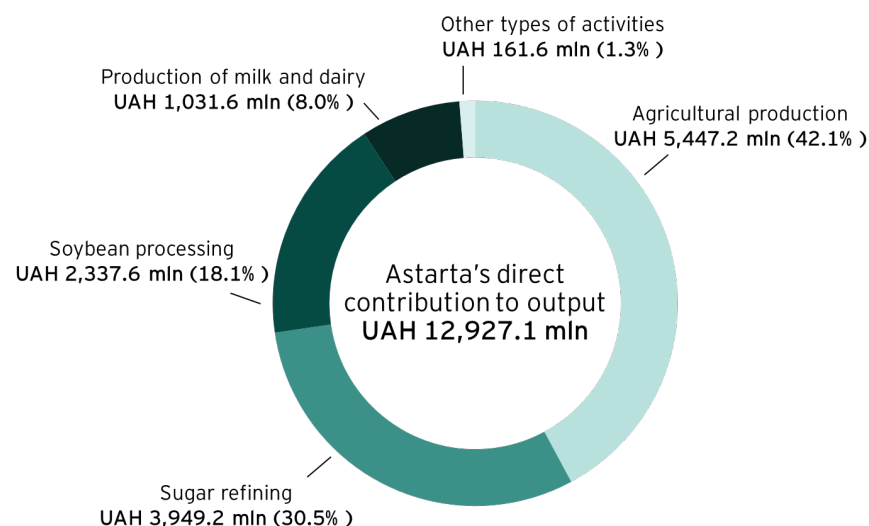
- Output
- GDP
- Employment
- Labour income
- Taxes



5.1. Contribution to output

The Company's direct contribution to the output is the value of products sold by the Company during the reporting period, i.e. it is equal to its sales. In 2020, Astarta's direct contribution to the output amounted to UAH 12,927.1 mln.

Structure of Astarta's direct contribution to output in 2020



81.4% of Astarta's total purchases in 2020 were spent on goods and services in the domestic market

The indirect contribution to the output reflects the effect of Astarta's purchases in the domestic market and is created in other sectors of the Ukrainian economy due to the demand for the products of these sectors generated by Astarta. The indirect contribution is equal to the value of the products of contractors in the entire supply chain, which is manufactured precisely because Astarta supports their activities by purchasing goods and services from them. In 2020, Astarta's indirect contribution to the output amounted to UAH 10,754.5 mln.

By purchasing from domestic producers, Astarta supports the Ukrainian economy. In 2020, about 81% of the Company's total supplies were purchased from Ukrainian suppliers.

It is agricultural products that Astarta mostly buys in the domestic market; specifically, about 97% of all agricultural products are purchased from Ukrainian producers. At the same time, agricultural products make more than 50% of the total amount of Astarta's purchases. It means that Astarta has a significant impact on the local agricultural producers, as it provides them with significant incomes. In addition, the Company is actively establishing partnerships and cooperation with Ukrainian farmers. In the spring of 2020, Astarta established a Center for Partnerships with Independent Farmers. The Center facilitates Astarta's cooperation with partners in the procurement of agricultural products and

provides the suppliers with transparent information on its procurement programs.

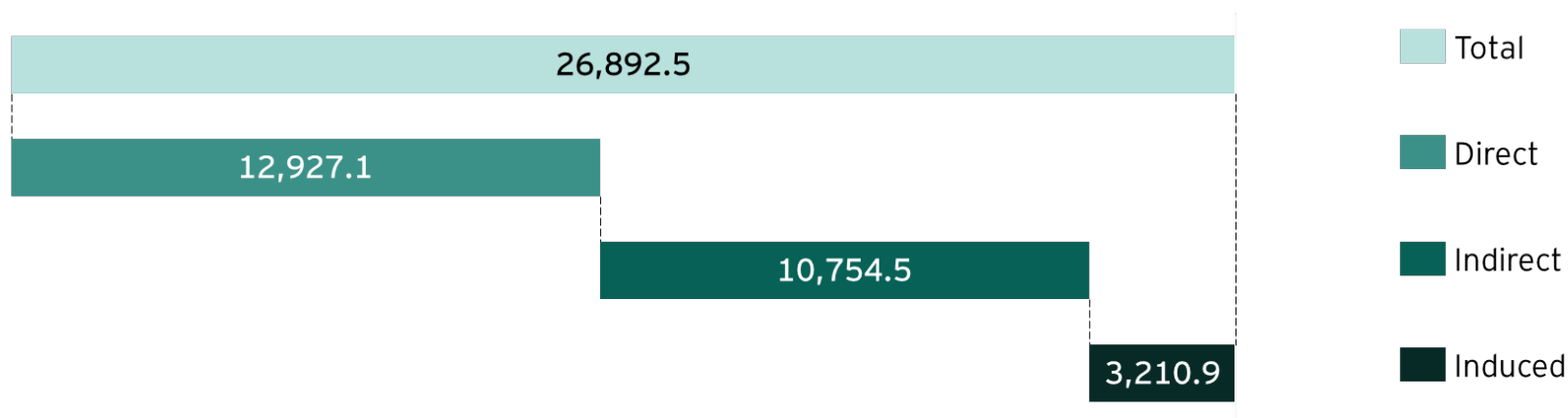
At the same time, Astarta's purchases of oil and gas products; oil refined products; computers, electronic and optical products; chemical substances and products; and vehicles are dominated by imported products.

The induced contribution to the output is a contribution through the consumer spendings of Astarta employees and employees of its suppliers and contractors. Astarta and its suppliers and contractors pay salaries and wages to their

employees who, in turn, spend their earnings on goods and services in the domestic market. Thus, they create demand and support the activities of the companies that produce consumer goods and provide services to the households. In 2020, Astarta's total indirect contribution to the economy amounted to UAH 3,210.9 mln.

Astarta's *total contribution to the output* is the sum of its direct, indirect and induced contributions. In 2020, this figure amounted to UAH 26,892.5 mln.

Structure of Astarta's total contribution to output in 2020, UAH mln



The Company's total contribution to the output is about commensurate with 0.31% of the total output of goods and services in the economy of Ukraine. It means that only about 300 companies like Astarta together with its full supply chain could generate the total output of goods and services in Ukraine in 2020.

In comparison, the total Astarta's contribution to the output is the same as the actual output of the entire Ukrainian sector of motor vehicles, trailers and semi-trailers and ten times greater than the output of the country's footwear industry in 2020. Also, Astarta's total contribution to the output is about 1/2 of the rubber and plastic products sector, 1/3 of meat and meat products sector, and 1/10 of iron, steel and ferroalloys sector of Ukrainian economy.

UAH 26,892.5 mln - Astarta's total contribution to the output of goods and services in Ukraine in 2020

The share of the direct contribution in the Astarta's total contribution to the output is 48.1%. More than a third (40.0%) of the total contribution is due to the indirect contribution, i.e. the effect of the Company's procurement activities. The induced contribution, or the effect of the employees' consumer spending, is 11.9%. It means that UAH 2.08 of output of goods and services in the Ukrainian economy is generated per each UAH of Astarta's output.

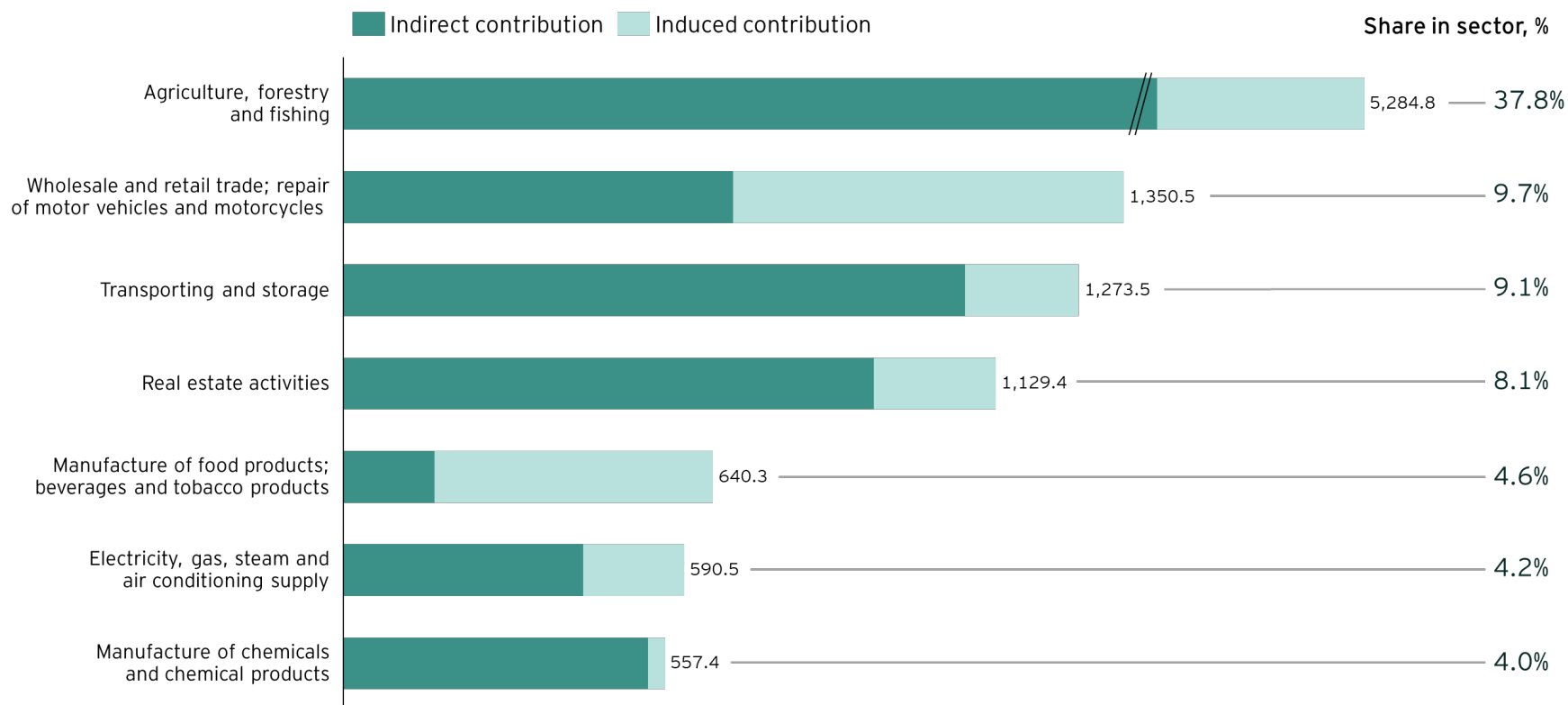
Indirect and induced contributions reflect the impact of the Company's activities on the business activities of other sectors of the economy. The distribution of Astarta's indirect and induced contribution to output between different sectors depends on both its purchasing activity and the consumer preferences.

In 2020, the largest share of indirect contribution (45.8%) was generated by agriculture, forestry and fisheries, 10.0% - transport and warehousing, and 8.5% - real estate transactions. The distribution is related to the specifics of Astarta's activities: the Company needs significant volumes of purchased seeds of some types of crops (rapeseed, corn), it actively uses transportation services (including grain transportation), leases premises and land.

The Company's induced contribution to the output is mostly generated by the motor vehicles trade and repair sector - 21.0% of the total induced contribution, food production - 15.0%, and agriculture, forestry and fisheries - 11.2%. Real estate transactions and transport services accounted for 6.6% and 6.1% of the Company's total induced contribution to the output, respectively.

UAH 2.08 of output is generated in the Ukrainian economy per each UAH of Astarta's output (revenues from sales of products)

Sectoral structure of Astarta's indirect and induced contribution to output in 2020



More than half of Astarta's direct purchases are agricultural products. This determines what sectors of the Ukrainian economy where the Company's indirect contribution to both output and GDP are the highest. Astarta generates an additional indirect contribution to the output of agriculture, transport and warehousing, real estate transactions and others.

The sectors where Astarta generates its induced contribution are determined by the needs and demand of households. The greatest impact is on vehicle trade and repair sector, as well as the sectors that provide food, transport and housing services to the households.

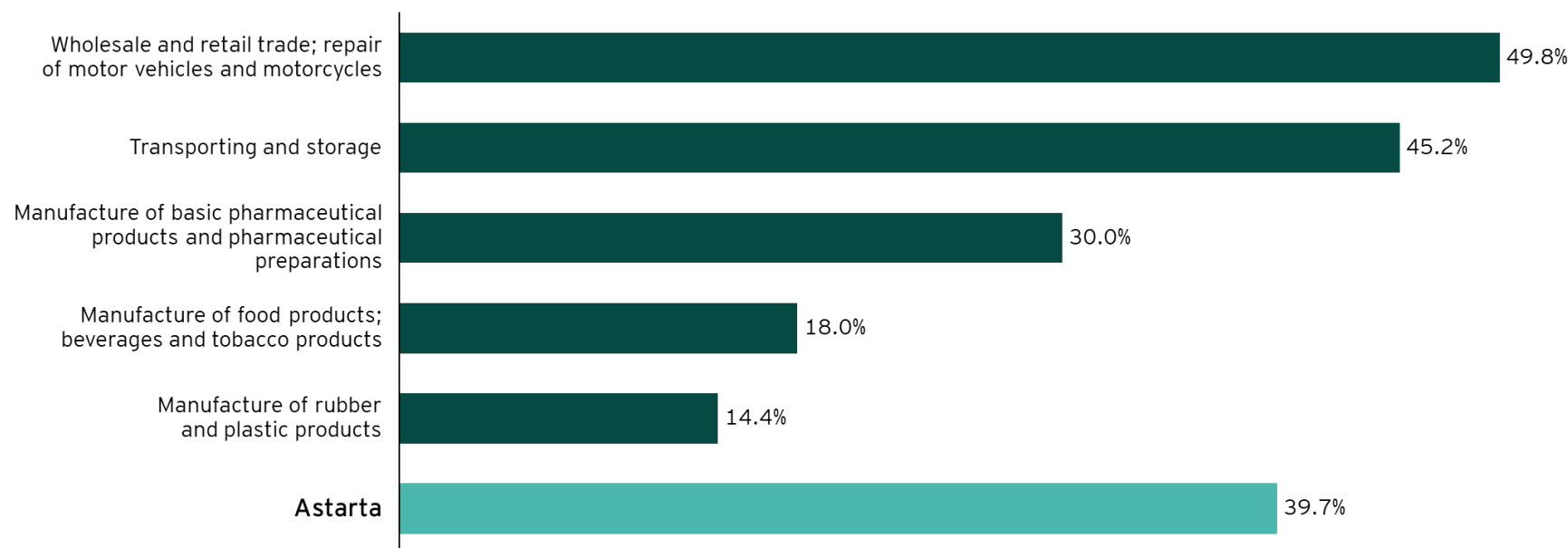
As noted above, intermediate consumption and gross value added are the components of output at the macroeconomic level. Value added reflects the additional economic value created in the course of a company or sector activities. The Astarta's share of value added in the output is 39.7%.

For comparison, in 2019 this indicator for the entire transport and warehousing sector was 45.2%, and for the

pharmaceutical sector - 30.0%². The following section describes Astarta's contribution to Ukraine's value added.

Output =
*Intermediate consumption (the Company's purchases) +
Generated value added*

Share of added value in Astarta's output and the output of some Ukrainian sectors in 2020



² The figure is calculated based on the data from the State Statistics Service on the output of goods and services in 2019 by sector, since at the time of preparation of this report, the relevant official data of the State Statistics Service for 2020 are not available.

5.2. Contribution to GDP

Astarta purchases raw materials and supplies to create its own final products. The volume of such purchases is the Company's intermediate consumption. Using raw materials, Astarta creates added value in the production activities, for example through the processing of agricultural products. The part of the value of the final product, additionally created by the Company in the course of its production activities, is the added value. At the national level, the sum of value added of all business entities in the economy of Ukraine makes up the GDP (gross domestic product).

Since the contribution to GDP is related to the creation of economic added value, it is a more indicative reflection of the economic activity of the Company and its contribution to the economic growth of Ukraine than the contribution to output.

UAH 10,956.7 mln - Astarta's total contribution to GDP in 2020

The components of the total contribution to GDP are:

- ▶ Direct contribution to GDP - the amount of value added created directly by Astarta in the process of agricultural production;
- ▶ Indirect contribution to GDP - reflects the total of value added generated by Astarta's suppliers and contractors, as well as other related companies throughout the supply chain. It is generated due to Astarta's purchasing activities;

- ▶ Induced contribution to GDP - shows the total value added, generated by the companies that produce consumer goods and provide services to the households. It is created due to the demand of Astarta employees, as well as employees of its contractors and suppliers, for domestic consumer goods.

The amount of value added generated by Astarta itself in 2020, i.e. its **direct contribution** to GDP, amounted to UAH 5,132.0 mln. The Company's share of value added in Ukraine's GDP is 0.12%, and 1.3% - in the GDP of the agricultural sector alone.

Due to the additional demand created by Astarta for the products of domestic companies in the related sectors, another UAH 4,505.0 mln of contribution to GDP is generated - that is the Company's **indirect contribution** to GDP. Through the indirect contribution, Astarta's suppliers and contractors generated an additional UAH 0.88 of GDP throughout the supply chain per each UAH of Astarta's value added.

Astarta's **induced contribution** to GDP amounted to UAH 1,319.7 mln in 2020. In other words, the sectors of the economy that produce consumer goods and provide services to the households generated an additional 0.26 UAH of GDP per each UAH of Astarta's value added.

Astarta's **total contribution** to GDP amounted to UAH 10,956.7 mln in 2020, which is 0.26% of Ukraine's total GDP.

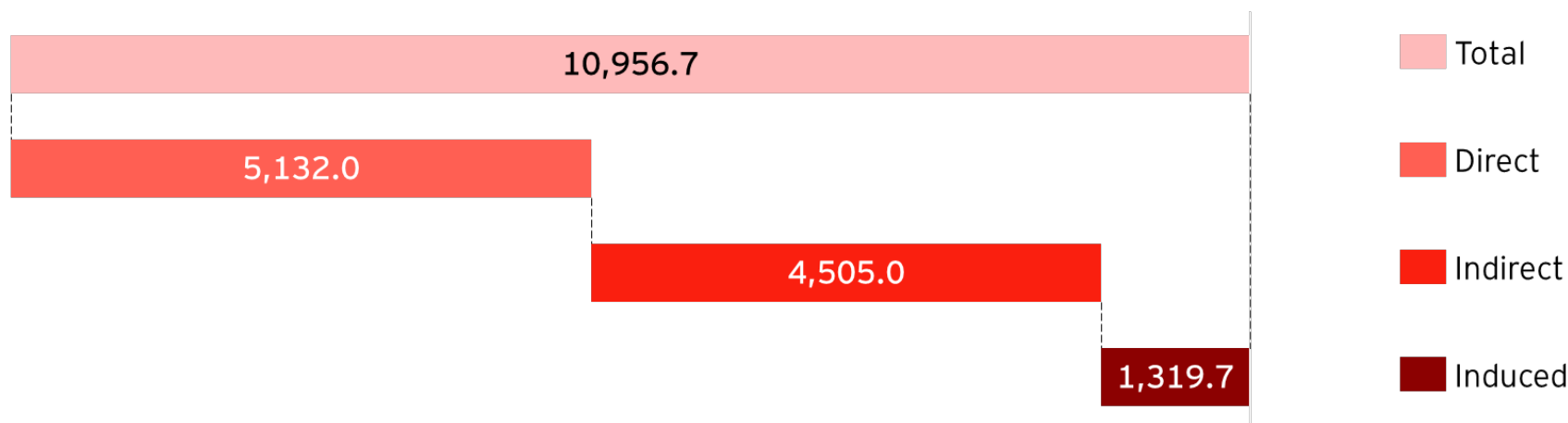
0.26% of Ukraine's GDP is the total contribution of Astarta to Ukraine's GDP

In comparison, the Company's total contribution to GDP is equal to 1/5 of the gross regional product of the entire Zakarpattia or Kherson regions of Ukraine. It is also commensurate with 8% of GDP generated by the entire financial and insurance sector of Ukraine or 9% of GDP generated by the construction sector. Moreover, Astarta's total contribution to GDP is half of the GDP created by Ukrainian arts, sports, and entertainment and recreation sector in 2020.

Astarta's direct contribution in its total contribution to GDP is 46.8%, and the remaining 53.2% is indirect and induced contributions. The Company's additional effect on GDP is approximately the same as its direct value added. It means that due to the multiplier effect of its activities, Astarta doubles its own value added.

Thus, the total of UAH 2.13 of GDP is generated in the Ukrainian economy per each UAH of Astarta's value added as a result of its purchases and consumer spending of the employees.

Structure of Astarta's total contribution to GDP in 2020, UAH mln



Astarta's direct contribution to GDP reflects the value added entirely created by the company itself, i.e. the agricultural sector. On the other hand, its indirect and induced contributions are distributed among other sectors of the economy depending on the structure of Astarta's purchases and household consumer demand.

Astarta's production processes require goods and services that the Company purchases from other sectors. The indirect contribution to GDP shows the value added generated by other companies due to Astarta's demand for their products. Accordingly, the indirect contribution to GDP is distributed among the sectors where Astarta's suppliers and contractors operate. Such sectors expectedly correspond to those listed in the structure of Astarta's indirect contribution to output. In 2020, within the indirect contribution, 46.0% of value added was created in agriculture, forestry and fisheries, 10.2% - in transport and warehousing, and 9.3% - in real estate transactions.

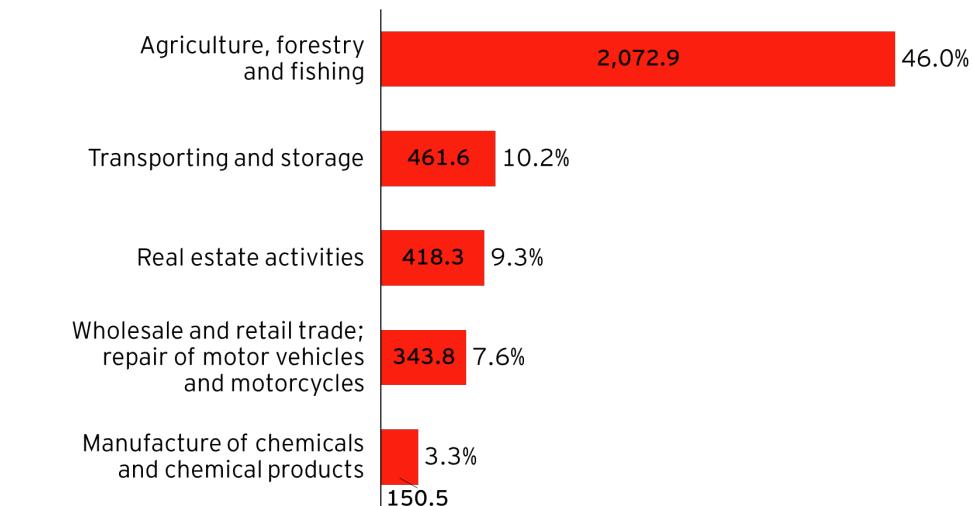
The sectoral structure of Astarta's induced contribution to GDP reflects the consumer demand of the households that get labour income from the Company. In 2020, 25.4% of the induced contribution was the value added created in vehicles trade and repair sector, 17.7% - in agriculture and food sector, and 18.0% - in real estate and transport sector.

UAH 2.13 of GDP generated in the Ukrainian economy per each UAH 1 of Astarta's value added

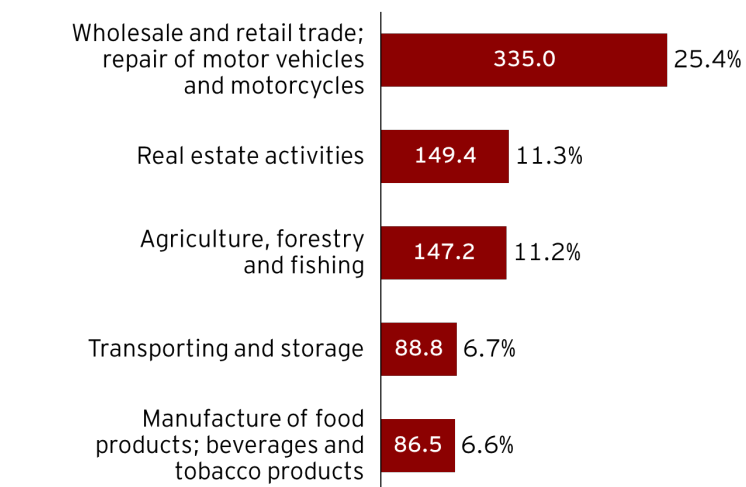
Sectoral structure of Astarta's indirect and induced contribution to GDP in 2020,

% of the sector in the total amount of indirect and induced contribution

Indirect contribution, UAH mln



Induced contribution, UAH mln

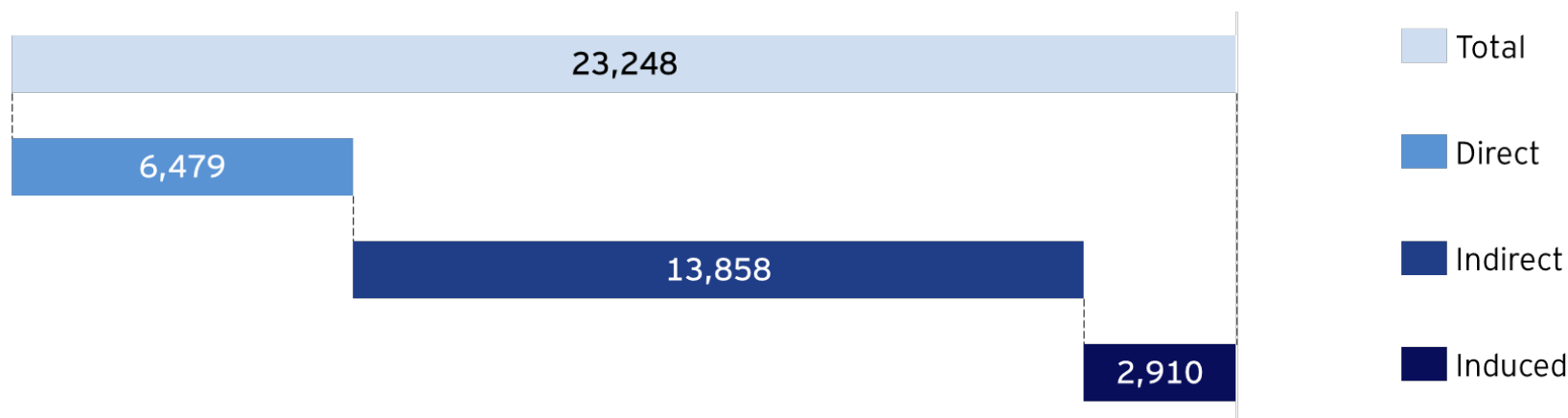


5.3. Contribution to employment

The employment level is an important driver of a sound economy and economic growth. Level of employment affects labour income, tax revenues to the state and the welfare of a society. Astarta's activities not only contribute to the creation of new jobs in the Company itself, but also have a positive impact on employment in other sectors of the economy. In 2020, Astarta provided jobs to 6,479 employees, which is its **direct contribution** to employment³.

By purchasing goods and services from domestic suppliers, the Company supports local producers and, thus, stimulates the creation of new jobs in the related sectors - that is an **indirect contribution** of the Company to employment. In 2020, it amounted to 13,858 jobs, which is twice the number of the employees in Astarta itself.

Structure of Astarta's total contribution to employment in 2020, jobs



³ The data on the direct contribution to employment are provided in full-time equivalent

The Company's **induced contribution** to employment, which is 2,910 jobs in 2020, is generated due to the consumer spending of Astarta's employees. In other words, these jobs were additionally supported in the sectors of the Ukrainian economy which supply goods and services to Astarta's and its suppliers' employees. Thus, Astarta's **total contribution** to employment in Ukraine amounted to 23,248 jobs in 2020.

In total, as a result of Astarta's indirect and induced contributions to employment, an additional 16,768 jobs were supported in Ukraine, which is 2.6 times more than the number of the Company's own employees.

The Company's multiplier effect on supporting employment in Ukraine was 3.59 in 2020. It means that a total of 3.59 jobs were supported in the entire economy of Ukraine per one job in Astarta. The multiplier of Astarta's total contribution to employment exceeds the multipliers of output and GDP. In other words, the most positive effect of the Company's activities on the economy of Ukraine is manifested through the support of jobs. At the same time, the multiplier effect of the indirect contribution is fivefold the effect of its induced contribution. So, compared to the effect of employees' consumer spending, Astarta's purchases from local suppliers generate a bigger boost for the economy, which results in creating 5 times more jobs.

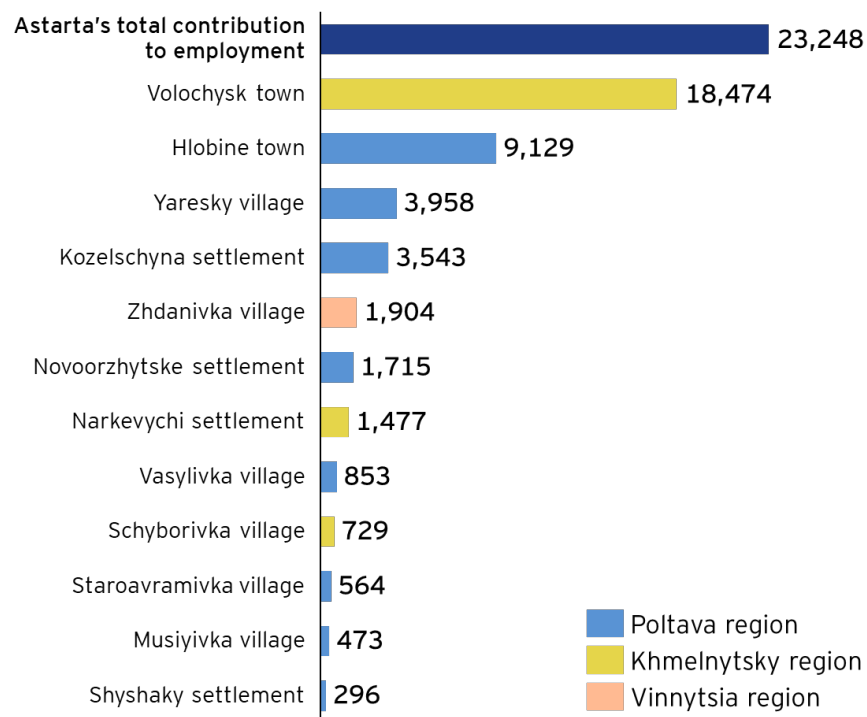
In 2020, the total working population in Ukraine was 15,995.6 thousand people⁴. Astarta's share in the total workforce in Ukraine in 2020 was 0.04%. At the same time, with Astarta's indirect and induced effects on employment, it collectively supported jobs of 0.15% of the total employed population of Ukraine. This is a relatively high employment rate, as it exceeds the level of actual employment in some sectors of the Ukrainian economy in 2020. For example, the sector of manufacture of refined petroleum products employed the total of 14,033 persons, while the sector of manufacture of coke oven products employed 8,921 persons⁵.

To demonstrate the extent of the Company's impact on Ukraine's employment, imagine that there is a city with the population equal to Astarta's total contribution to employment. The population of such a city would be larger than the population of all settlements (8,481 inhabitants) and urban-type settlements (7,488 inhabitants), in which the Astarta's production subsidiaries are located. Also, Astarta's total contribution to employment is almost equal to the number of inhabitants of the towns (population 27,603), where the company's production branches operate. In other words, Astarta, given its indirect and induced effects on employment, could provide jobs for the entire population of settlements and urban-type settlements, and almost the entire population of the towns in which its production facilities are located.

⁴ According to the data of the State Statistics Service on the employed population in 2020 http://www.ukrstat.gov.ua/operativ/operativ2017/rp/eans/eans_u/arch_znsmv_u.htm

⁵ According to the data of the Pension Fund of Ukraine on the number of insured persons received on request to the Pension Fund of Ukraine

Astarta's total contribution to employment compared to the population of settlements and towns that host the Company's production facilities in 2020, persons



The largest production facilities of the Company are located in Poltava, Khmelnytsky and Vinnytsia regions. Thus, in Poltava region there are 4 sugar refineries, 1 soybean processing plant, 1 bioenergy complex and 4 elevators. In Vinnytsia region, there are Zhdanivsky sugar refinery and 1 elevator. Khmelnytsky region hosts Narkevytsky sugar refinery and 2 elevators: Krasylivsky and Viytovetsky.

Astarta's indirect impact on job creation impacted mostly the following sectors: agriculture, forestry and fishing - 40.9% of the total indirect contribution to employment or 5,665 jobs; wholesale and retail trade; repair of motor vehicles and motorcycles - 11.6% or 1,614 jobs; transporting and storage - 10.4% or 1,440 jobs. These figures outline the specifics of Astarta's supply chain.

As a result of the induced contribution, the largest number of jobs was supported in the following sectors: wholesale and retail trade; repair of motor vehicles and motorcycles - 32.8% of the total induced contribution to employment or 955 jobs; agriculture, forestry and fishing - 6.3% or 185 jobs; and manufacture of food, beverages and tobacco products - 6.2% or 181 jobs.

23,248 jobs - is Astarta's total contribution to the employment of Ukrainian population in 2020.

Astarta's total contribution to employment in 2020 amounted to **0.15%** of the total employed population in Ukraine.

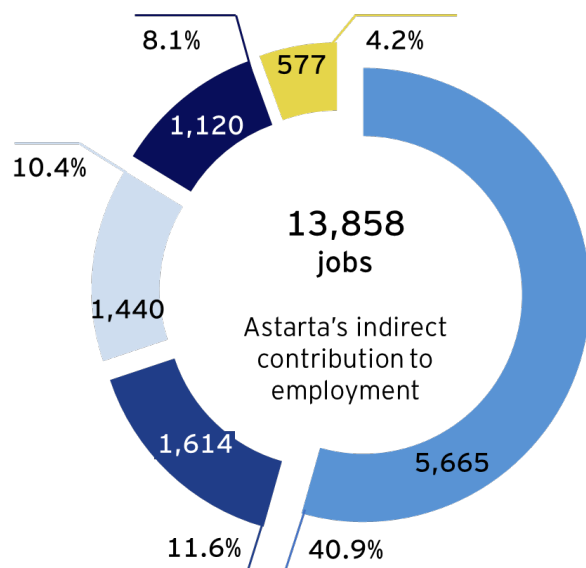
3,59 jobs are created in Ukrainian economy to support the activities of Astarta per one Astarta's employee.

Most of Astarta's procurement budget is spent on agricultural products, required for its production activities. Therefore, the Company's greatest impact is on the agri-industrial complex, both in terms of GDP and employment support. In 2020, the Ukrainian agriculture, forestry and fishing sector employed 768,529 people. The number of Astarta employees was 6,479, which is 0.84% of the total employees in the sector.

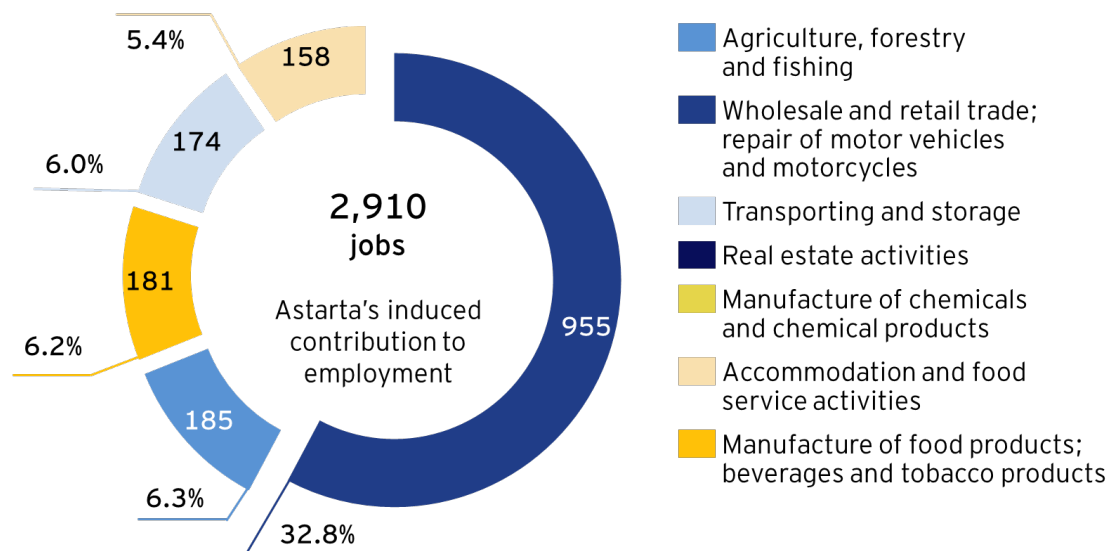
On top of that, due to the Company's indirect impact on employment, additional 5,665 jobs were supported in the sector of agriculture, forestry and fishing, and another 185 jobs were created through its induced impact. In other words, in 2020, 1.60% of jobs in agriculture, forestry and fishing sector were maintained due to Astarta's business.

1,60% of jobs in agriculture, forestry and fishing sector were supported by Astarta's total contribution to employment.

Distribution of Astarta's indirect contribution to employment by sector (top-5 sectors) in 2020, jobs



Distribution of Astarta's induced contribution to employment by sector (top-5 sectors) in 2020, jobs



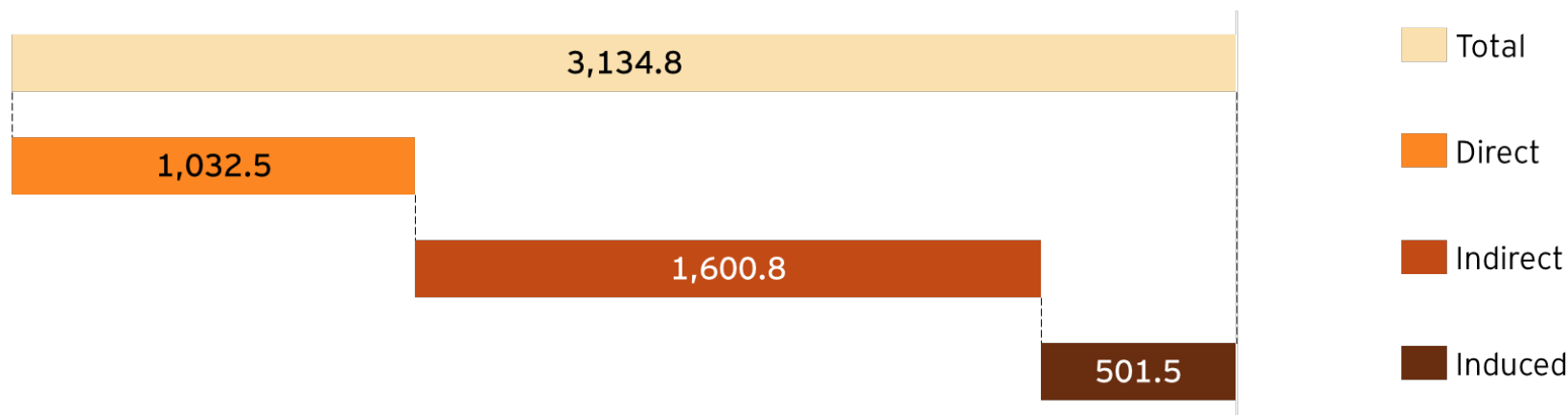
5.4. Contribution to labour income

People are Astarta's key asset, for that reason the Company focuses on creating comfortable working conditions for its employees and providing them with competitive wages. Through its direct, indirect, and induced impacts, Astarta's total contribution to the labour income of the Ukrainian population amounted to UAH 3,134.8 mln in 2020.

The **direct contribution** to the labour income is made through the remuneration of the Company's direct employees; in 2020 it amounted to UAH 1,032.5 mln. The **indirect contribution**

reflects the positive impact of Astarta on the ability of all its suppliers and contractors throughout the supply chain to pay salaries and wages to their employees. The Company's indirect contribution to the labour income of the population amounted to UAH 1,600.8 mln. The **induced contribution** to the labour income is generated since Astarta's employees spend their labour income to buy goods and services from domestic producers and thus support their business. Compared to direct and indirect contributions, Astarta's induced contribution was the smallest and amounted to UAH 501.5 mln.

Structure of Astarta's total contribution to labour income in 2020, UAH mln

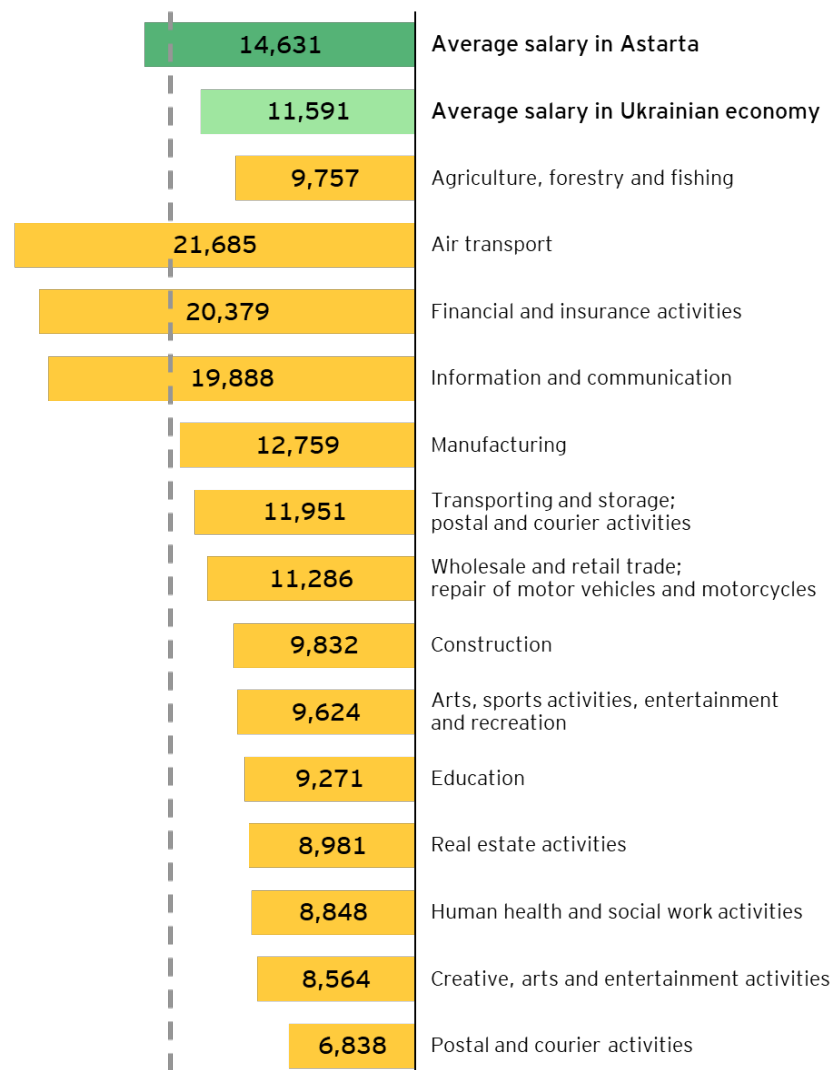


Astarta is a high-tech innovative company striving to attract and retain skilled workers. According to “Focus” magazine, Astarta was rated the Top Employer of the year 2020 in Ukraine in the agricultural sector.

The level of wages is an important tool for Astarta to attract and retain professionals, and to maintain its reputation of a competitive and attractive employer. According to the State Statistics Service, the average monthly salary in Ukraine in 2020 was UAH 11,591. For Astarta, this figure amounted to UAH 14,631.3, which exceeds the average salary in Ukraine by 26.2%, and the average salary in agriculture, forestry and fishing sector - by 50.0%. The trend has been observed for quite a long time, particularly in 2018-2020 the average salary of Astarta's employees was 24.2% higher than in Ukraine and 47.1% higher than in agriculture, forestry and fishing sector. Moreover, the average salary of Astarta's employees in 2020 exceeded the average monthly wages in some regions of Ukraine, where the Company's assets are located: in Khmelnytsky region - by 60.5%, in Vinnytsia region - by 53.9%, in Poltava region - by 46.4%, in Ternopil region - by 68.9%, in Chernihiv region - by 69.8%, in Zhytomyr region - by 65.6%, and in Kharkiv region - by 58.9%.

UAH 3,134.8 mln - is Astarta's total contribution to the labour income of Ukrainian population in 2020

Average salary in Astarta compared to the average salary in some sectors in 2020, UAH



In 2020, Astarta's multiplier effect on labour income of the Ukrainian population was 3.04.

In other words, UAH 3.04 of labour income of the population in the economy of Ukraine is generated due to Astarta's business per UAH 1 of its payroll. In other words, each hryvnia paid by Astarta as a salary to its employees, supported the ability of other companies in the Ukrainian economy to pay a total of 2.04 UAH to their employees.

UAH 3.04 of labour income of the population in Ukraine is generated in the Ukrainian economy per each hryvnia of Astarta's payroll.

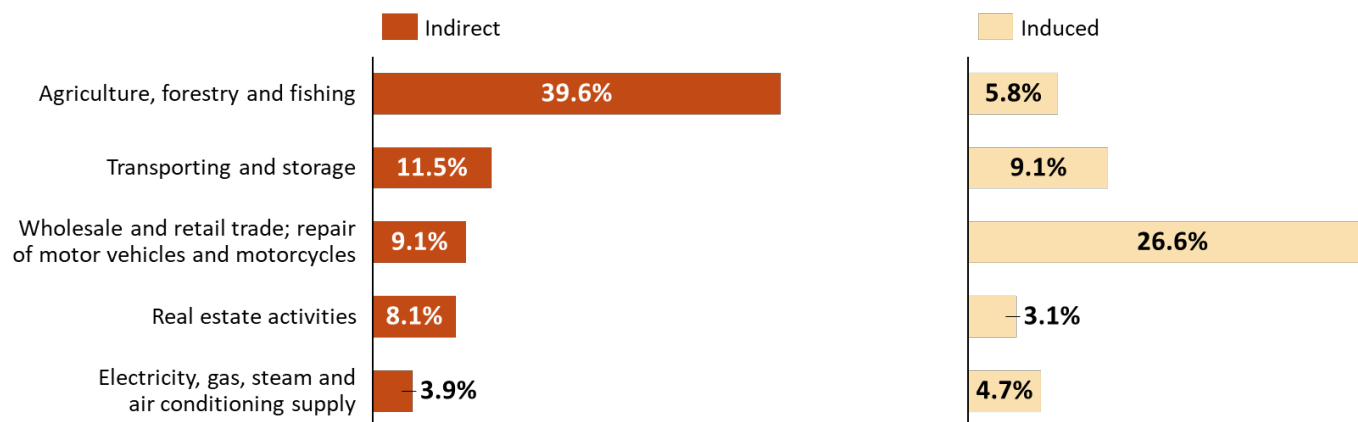
The list of sectors where Astarta's impact on labour income is the biggest is similar to the sectoral structure of its contribution to employment, however there are some

differences. As in the case with the contribution to employment, the largest share of the indirect contribution to labour income falls on agriculture, forestry and fishing sector (39.6% or UAH 634.1 mln). However, unlike the contribution to employment, the second top for indirect contribution to labour income is transporting and storage sector (11.5% or UAH 184.8 mln), and the third top - wholesale and retail trade; repair of motor vehicles and motorcycles (9.1% or UAH 146.0 mln).

The induced contribution comes mostly through the following sectors: wholesale and retail trade; repair of motor vehicles and motorcycles (26.6% or UAH 133.6 mln); transporting and storage (9.1% or UAH 45.8 mln), and production of food, beverages and tobacco products (8.1% or UAH 40.6 mln).

Sectoral structure of Astarta's indirect and induced contribution to labour income in 2020 (top-5 sectors),

% of the sector in the total amount of indirect and induced contribution



5.5. Contribution to tax revenues of the state

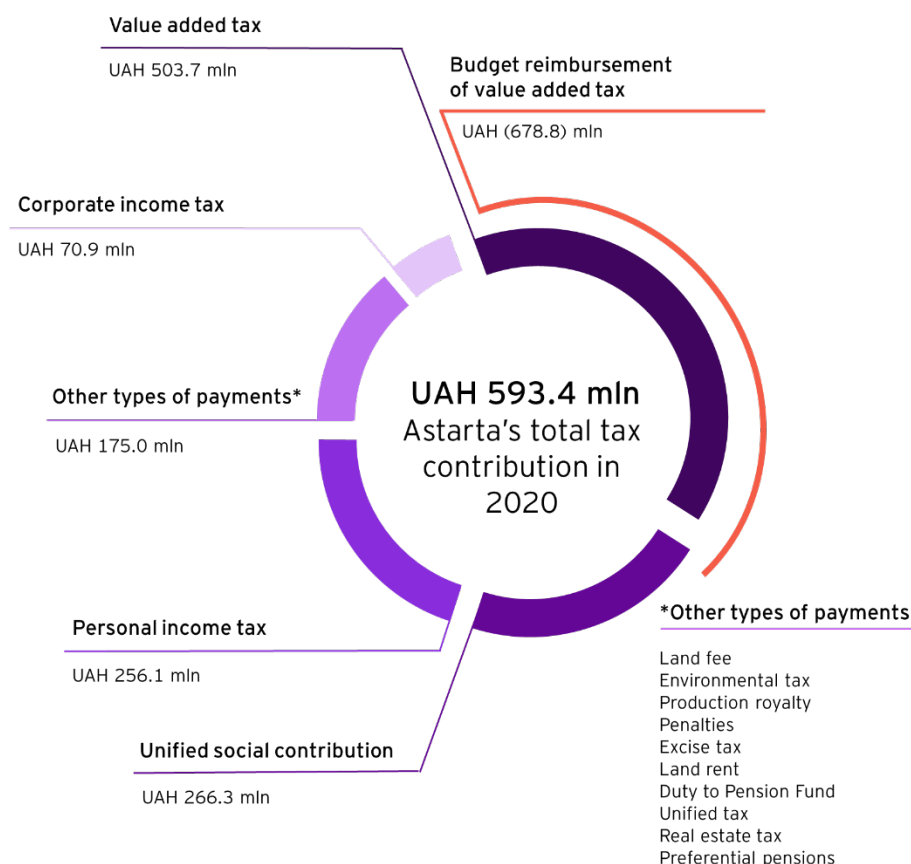
Taxes are the key drivers of the state budget, as they enable operations of schools, hospitals, and government agencies, and provide support to socially vulnerable groups. In 2020, tax revenues made 82.6% of the total revenues to the Consolidated Budget of Ukraine⁶.

A significant part of tax and other revenues to local and state budgets is provided by large companies, including Astarta. Every year the Company pays taxes honestly and contributes to the local budgets of cities and towns in the regions of its presence. The company has a transparent tax policy, provides official income to about 7,000 employees and publicly cooperates with 53.6 thousand landlords of agricultural land, paying all necessary tax payments.

In 2020, Astarta paid UAH 1,272.3 mln in taxes, of which UAH 694.6 mln - to the local budgets of Vinnytsia, Khmelnytsky, Poltava, Kharkiv, Cherkasy and Kyiv regions.

The major Astarta's tax and other payments to the state in 2020 include the value added tax (UAH 503.7 mln), the unified social contribution (UAH 266.4 mln) and the personal income tax (UAH 256.1 mln).

Structure of Astarta's tax and other payments to the benefit of the state in 2020



⁶ Calculated based on the data of the State Treasury Service of Ukraine on the revenues to the Consolidated Budget of Ukraine:

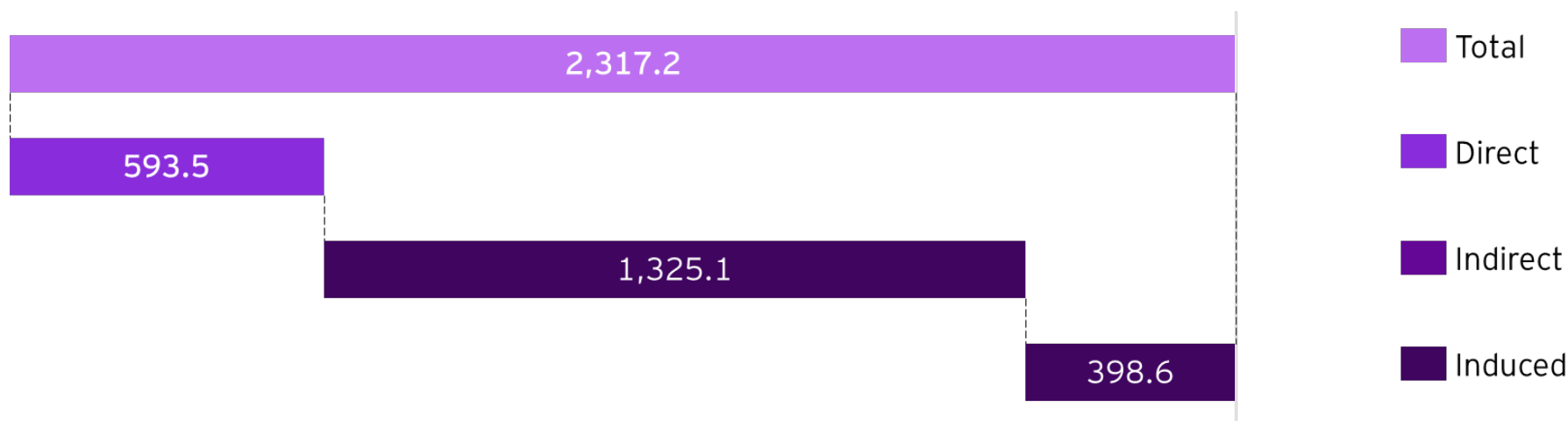
<https://www.treasury.gov.ua/ua/file-storage/richna-zvitnist-13>

Astarta being an agri-industrial holding is entitled to a budget refund of value added tax, and in 2020 the Company received UAH 678.8 mln as a compensation from the State Budget. Thus, the total amount of all taxes paid by Astarta, including VAT refunds, i.e. the **direct tax contribution** of the Company, amounted to UAH 593.5 mln in 2020.

For comparison, the total taxes paid by Astarta to the national and local budgets (excluding VAT refunds) is equivalent with

the state expenditures for the development and operations of the National Academy of Agrarian Sciences of Ukraine, which in 2020 amounted to UAH 1,237.9 mln. Astarta's direct tax contribution (including VAT refunds) is almost 4 times the amount of state funding of R&D of the Ministry of Economy of Ukraine in the field of agro-industrial complex development, standardization and certification of agricultural products in 2020, which amounted to UAH 161,1 mln⁷.

Structure of Astarta's total tax contribution in 2020, UAH mln



⁷ Calculated based on the data of the State Treasury Service of Ukraine on the state budget expenditures, <https://www.treasury.gov.ua/ua/file-storage/richnij-zvit-pro-vikonannya-derzhavnogo-byudzhetu-ukrayini-za-2020-rik>

Astarta's total tax contribution to the state budget revenues includes not only taxes and levies paid directly by the Company, but also its indirect and induced effects on other enterprises. During its operations, Astarta purchases goods and services from its suppliers in the domestic market. In such way, it supports their ability to generate income, and thus to pay taxes to the Ukrainian budget - that is Astarta's **indirect tax contribution**. The **induced tax contribution** arises from the consumer spending made by Astarta's employees and the employees of its contractors and suppliers. It includes the tax revenues to the state budget that have been generated in sectors of the economy that produce goods and services to satisfy the consumer needs of the labour force.

In 2020, Astarta's indirect tax contribution amounted to UAH 1,325.1 mln, and induced contribution - UAH 398.6 mln. Thus, the total contribution of the Company to the tax revenues of the state reached UAH 2,317.2 mln. The amount is equal to 0.17% of the total revenues to the Consolidated (State and Local) Budget of Ukraine.

The multiplier effect of Astarta's tax contribution in 2020 was 3.90. It means that UAH 3.90 of tax payments were generated throughout the economy per each hryvnia paid by the Company to the state and local budgets. In other words, through Astarta's indirect and induced tax contributions, each hryvnia of its payments in favour of the state increased by almost 3 additional hryvnias. The indirect contribution is the major component of the Company's total tax contribution. It highlights significant impacts of Astarta on generation of tax

revenues to the state budget in the supply chain through its procurement activities.

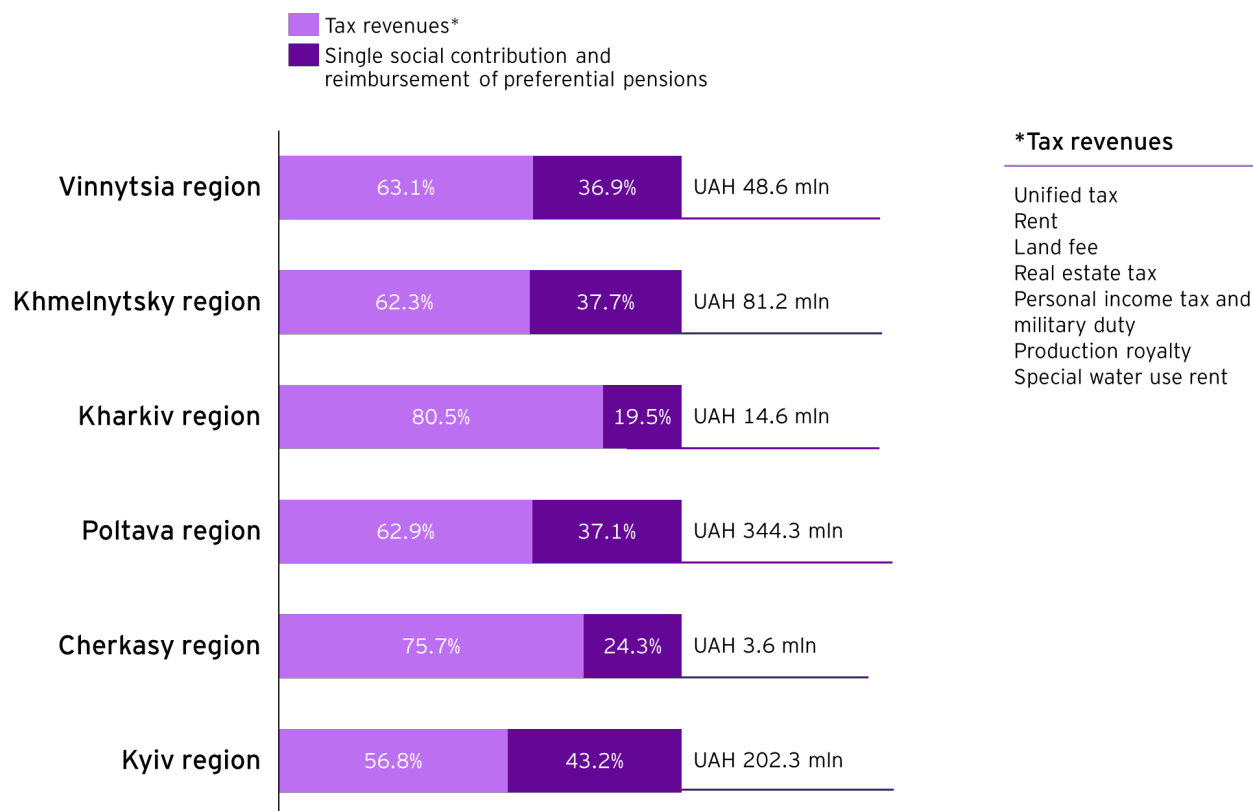
UAH 2,317.2 mln - is Astarta's total tax contribution in 2020.

Tax burden is one of the key performance indicators of any company, which demonstrates the degree of fulfilment of its tax obligations. The indicator is calculated as the ratio of the total taxes paid by the company to its net profit. In 2020, Astarta's tax burden was 4.59%. In other words, every 22nd hryvnia of the Company's net income was paid to the state and local budgets in the form of taxes and levies.

UAH 3.90 of tax payments and levies are generated in the economy of Ukraine per each UAH of taxes and levies paid by Astarta.

Most of Astarta's tax and other payments in favour of the state are paid to the local budgets of the regions in which it operates. In total, in 2020 the Company paid UAH 694.6 mln in taxes to the local budgets of Vinnytsia, Khmelnytsky, Kharkiv, Poltava, Cherkasy and Kyiv regions. Of these, 61.5% are taxes, and 38.3% are the payment of a unified social contribution, and 0.1% are reimbursement of preferential pensions to the Pension Fund. Poltava region (UAH 344.2 mln) and Kyiv region (UAH 202.3 mln) are the leaders in terms of Astarta's payments to local budgets.

Astarta's tax and other payments to the local budgets in 2020



6. Capital Investments



Capital Investments

Capital investments are the Company's investments in tangible or intangible assets for long-term use. Capital investments have a positive impact on the economic development of the company itself, as well as the region and the country, as they promote the introduction of innovative technologies, upgrading fixed assets and infrastructure development.

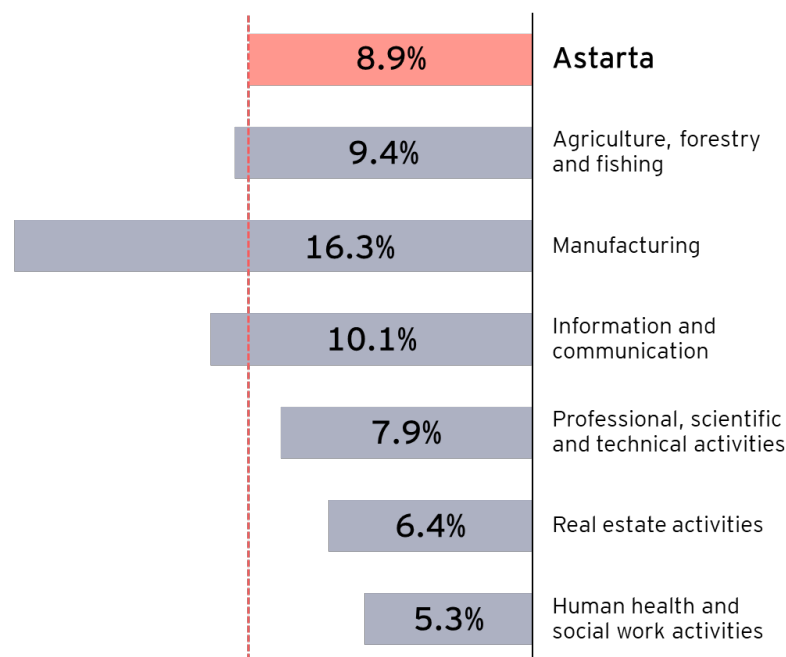
In 2020, Astarta's capital investments amounted to UAH 457 mln, and during 2018-2020 the Company invested UAH 2,670.1 mln in its capital projects.

Astarta's capital investments in 2020 made 0.09% of the total capital investments in Ukraine, and 0.16% for the period from 2018 to 2020. Astarta's share in capital investments of the entire agricultural sector in 2020 was 1.25%.

Astarta's total capital investments in 2020 is commensurate with the capital investments of entire sectors, such as silviculture and other forestry activities (UAH 416.6 mln), passenger air transport (UAH 470.5 mln), motion picture, video and television programme activities (UAH 476.2 mln).

1.25% - is Astarta's share in capital investments of the entire agricultural sector in 2020.

Astarta's capital investment to its value added compared to some sectors' capital investment to their GDP in 2020



Astarta's capital investments in 2020 amounted to 8.9% of the value added generated by the Company. The indicator is higher than the share of capital investments in the GDP structure of certain sectors of the Ukrainian economy, such as professional, research and technical activities, real estate transactions.

The Company implements ambitious investment projects on a regular basis. In particular, in 2015 the Company launched the *ASTARTA Grain* investment program designed to build new and improve the existing grain storage facilities. The implementation of the program strengthened Astarta's leading position on the Ukrainian grain and oilseeds production and storage market. As of today, Astarta's elevator capacities include 7 modern high-tech transshipment complexes with a total capacity of 550,000 tons, which can ship grain to trucks and freights.

Astarta invests in machinery, equipment, transport, and energy-efficient technologies, in the reconstruction of premises, improvement of farm lighting and ventilation, the implementation of IT tools and programs. In 2020, a five-year investment program was launched to upgrade agricultural machinery and implement innovative IT tools for agricultural management.

According to the results of 2019, Astarta was included in **TOP-50 Innovative Companies of Ukraine**. The rating was formed by the editorial board of the TOP-100 magazine of the Delo.ua journal in cooperation with the industry experts. The rating highlighted Astarta's contribution to the development of an agribusiness management portal that contains consolidated data on the Company's land bank and assists the departments in communications. As part of the rating, Astarta was ranked in the TOP-5 innovative companies of the Ukrainian agri-industrial complex.

Every 11th hryvnia of Astarta's value added in 2020 was spent on capital investments.

The agricultural machinery upgrading and IT tools implementation investment program

In 2020, the first phase of the investment program was launched, which includes two areas: technical re-equipment and implementation of IT management tools.

During 2020, the program purchased 31 tractors with a capacity of 345 horsepower, 21 seed-planters (for grain, row plants and beet), 10 sets of vacuum systems for re-equipment of row seed-planters, 2 self-propelled sprayers, 4 cultivators, 3 toothed harrows. The tractors are equipped with accurate navigation and telemetry systems to collect the information necessary to make more effective management decisions.

One of Astarta's subsidiaries (AgriChain IT company) is developing an 8-module agribusiness management IT-system. In 2020, 2 modules have already been developed:

- ▶ AgriChain Land - contains consolidated cartographic and accounting data on land plots and land use;
- ▶ AgriChain Farm - contains the information required at all stages and for all processes of the production chain.

7. Export of products



Export of products

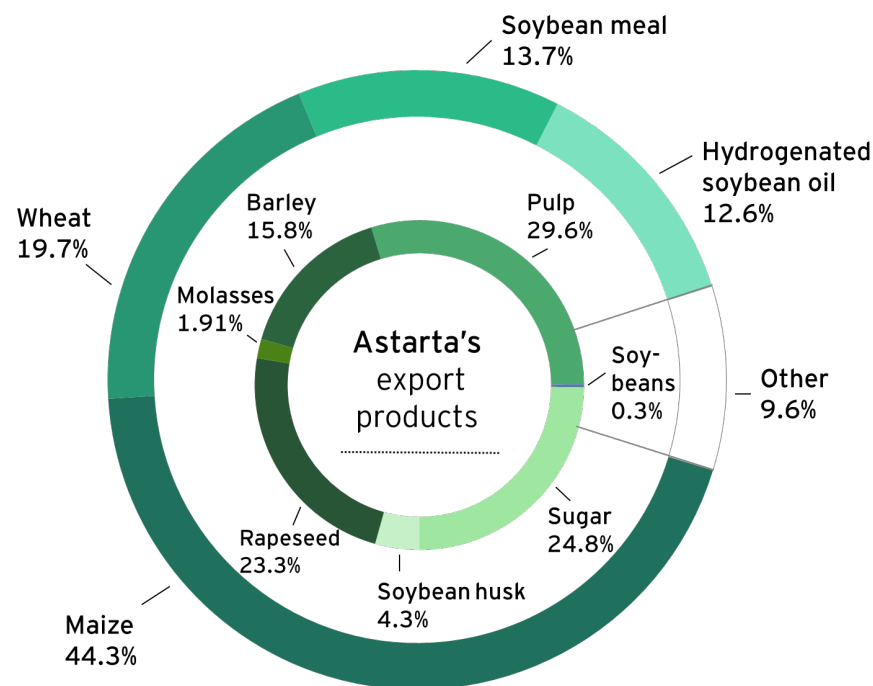
Agri-industrial holding Astarta-Kyiv is one of the largest exporters of agricultural products in Ukraine. The total value of the products exported by the Company in 2020, is USD 236,575.2 thousand:

1. **white sugar** - USD 5,641.4 thousand;
2. **molasses** - USD 434.0 thousand;
3. **dried granulated pulp** - USD 6,739.4 thousand;
4. **soybean oil** - USD 29,811.3 thousand;
5. **soybean meal** - USD 32,503.6 thousand;
6. **soybean shell** - USD 981.5 thousand;
7. **wheat** - USD 46,703.4 thousand;
8. **barley** - USD 3,582.4 thousand;
9. **maize** - USD 104,811.4 thousand;
10. **soybeans** - USD 71.9 thousand;
11. **rapeseed** - USD 5,294.8 thousand.

From year to year, Astarta increases exports of its products to more than 30 countries. During 2020, the share of exports amounted to 80% of the total Astarta's revenues from sales of agricultural products, 76% of the revenues from sales of soybean products and 9% - from sales of sugar products.

In 2020, agricultural products remained the basis of Ukrainian foreign trade. The value of total exports of agricultural products and food from Ukraine amounted to USD 22.2 bln or 45% of the total Ukrainian exports in 2020.

Structure of Astarta's exports in 2020



Maize dominates in the structure of Astarta products exports with 44.3% of the Company's total exports. The second top is wheat - 19.7% of total exports of Astarta, and in the third top is soybean meal - 13.7%.

While Astarta exported 11 types of its products worth USD 236,575.2 thousand, the total export of the same products from Ukraine amounted to USD 11.6 bln. Thus, Astarta contributed 2.04% to their exports. Astarta's share in the total export of all products of the agri-industrial complex and food industry from Ukraine was 1.07% in 2020.

In absolute terms, cereals are the leaders of Astarta's exports. However, as in percentage terms, sugar beet and soybean products contributed the most to the Company's exports in 2020.

In terms of individual types of products, Astarta's share in the total Ukrainian exports of granulated soybeans is the biggest - 58.0%, followed by granulated dried pulp - 30.6%, molasses - 27.9%, soybean meal - 14.4%, soybean oil - 13.3%, and beet sugar - 9.5%.

In 2020, every 100th US dollar from the total exports of agricultural and food products from Ukraine was Astarta's contribution.

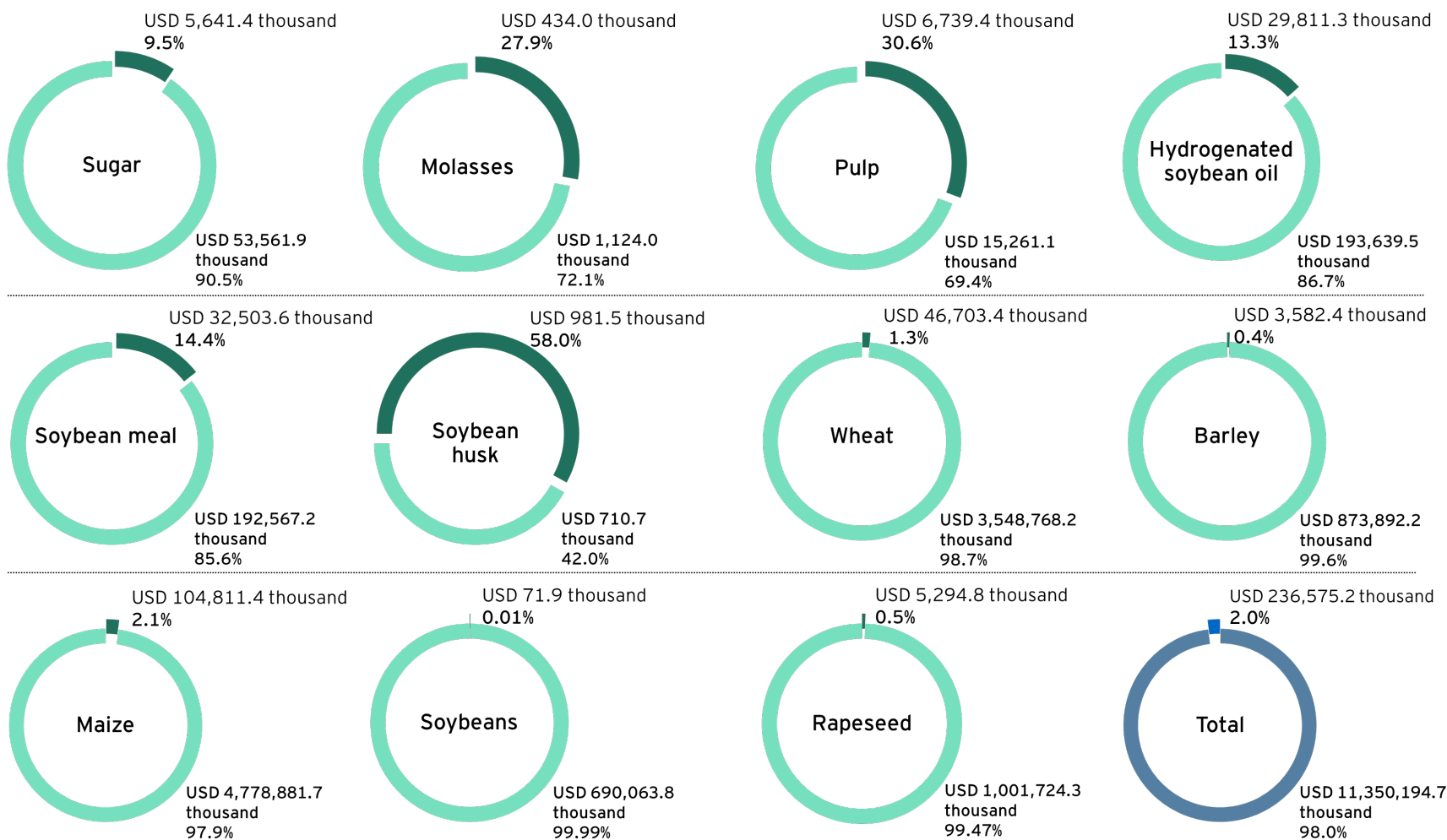
Astarta's share in exports of certain categories of agricultural products from Ukraine in 2020

Product category	Value of Astarta's exports, USD thousand	Astarta's share in the total exports from Ukraine, %
Sugar beet products	12,814.8	15.5%
Soybean products	63,296.4	14.1%
Cereals	160,464.0	1.5%
Total	236,575.2	2.04%

In 2020, every 50th US dollar from exports of sugar beet products (white sugar, molasses, pulp), soybeans (soybean oil, meal and soybean shell) and cereals (wheat, barley, corn, soybeans and rapeseed) from Ukraine accrued to Astarta.

Astarta's share in exports in terms of some products in 2020

■ Astarta's exports ■ Other exports



8. Investment in social and environmental projects



Investment in social and environmental projects

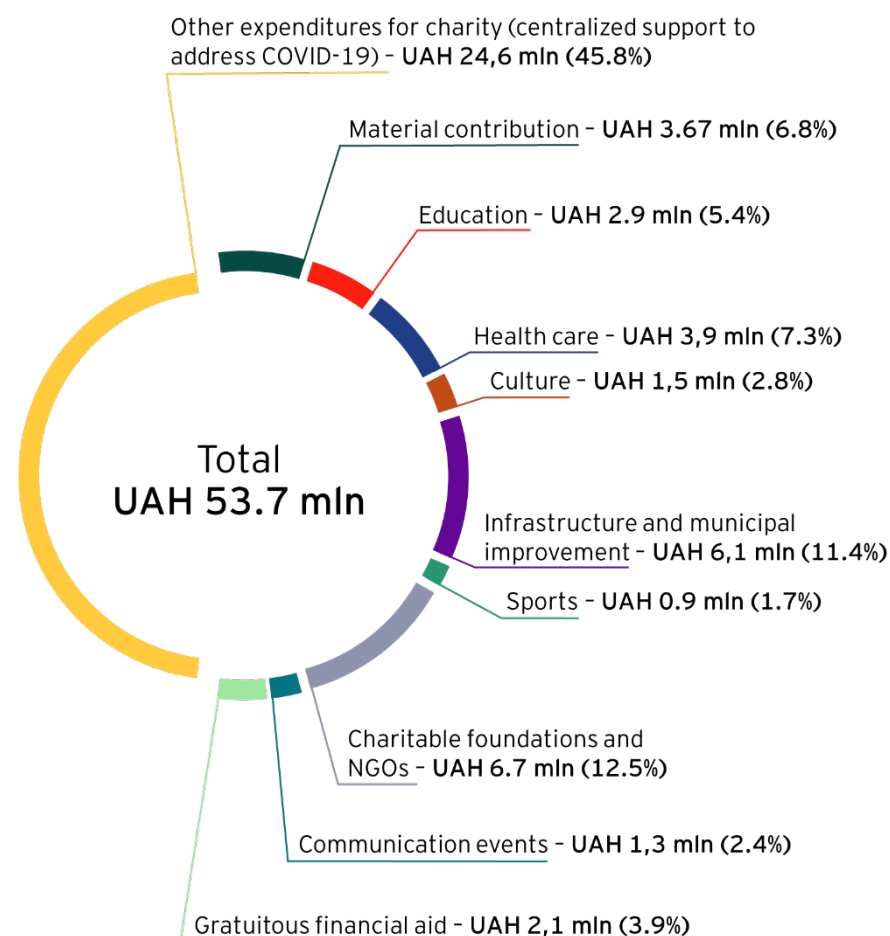
Astarta is one of the largest agri-industrial holdings in Ukraine that significantly affects the country's social development and the environment. To maintain sustainability of the environment and the well-being of the communities, the Company introduces sustainable agricultural practices aimed at mitigating the effects of climate change, protecting the environment and investing in social protection of the communities that host the Company's assets.

In 2020, Sustainalytics named Astarta among the top 3 companies out of 89 agricultural companies in ESG rating, thus confirming the effectiveness of its social welfare and environmental protection practices.

Social investment

During 2020, the Company's social and charitable expenses amounted to UAH 53.7 mln, which is 20.6% more than in 2019. Astarta kept on investing in the development of local communities as in one of the Company's top priorities, while helping them to overcome the effects of the COVID-19 pandemic.

Astarta's social investment in 2020



The largest share of Astarta's social investments (UAH 24.6 mln or 45.8%) was directed to centralized assistance to address the effects of COVID-19, which has led to severe quarantine restrictions worldwide. The Company transferred significant funds to charitable foundations and NGOs (UAH 6.7 mln or 12.5%), to infrastructure development and improvement (UAH 6.1 mln or 11.4%) and to health care (UAH 3.9 mln or 7.3%).

● Addressing COVID-19

In 2020, Astarta was engaged in helping the country in overcoming COVID-19 pandemic by transferring funds for the purchase of necessary equipment, personal protective equipment and preparations. Throughout the year, the Company allocated UAH 27.4 mln of which 89.8% were used through the national centralized facility to address COVID-19, and 10.22% - through the budgets of regional enterprises. The funds were used to repair rural hospital buildings, purchase protective means, medical devices and equipment.

In the autumn of 2020, Astarta provided the Poltava Regional Laboratory Center of the Ministry of Health of Ukraine for temporary use the equipment (thermoshaker and thermostat) used at the Globinsk Soybean Processing Plant to analyze the content of GMOs in soybeans. The equipment has greatly facilitated the procedure for diagnosing COVID-19 disease, while maintaining the accuracy and quality of tests.

To address COVID-19, Astarta purchased:

- 35 lung ventilators
- 5 oxygen concentrators
- 10 oxygen cylinders
- 1 defibrillator
- 900 oxygen masks
- 50 pulse oximeters
- 2 patient monitors
- 45,000 medical masks
- 2,300 liters of disinfectant
- 2,700 protective overalls, respirators, and glasses
- 1,050 medical gowns
- 1,000 test systems
- 2 laboratory assessment devices
- 25,000 mop caps
- 90 infrared contactless fever thermometers
- 26,500 medical gloves

Also, together with the partner company, more than 2 thousand liters of disinfectants were delivered to local hospitals to ensure the protection of doctors and nurses.

Astarta is actively cooperating with the Kyiv Volunteer Headquarters and allocated UAH 1 mln for necessary equipment and personal protective means to the Kyiv city hospital. During the year, the Company provided support to 36 health care facilities in Poltava, Khmelnytsky, Vinnytsia, Zhytomyr, Ternopil, Kharkiv and Chernihiv regions by providing effective direct communications for timely assistance in overcoming COVID-19.

● Uprise! Project

Since 2018, Astarta, together with the *Believe in Yourself* Charitable Foundation and the Ukrainian Leadership Academy, has been implementing the *Uprise!* Project, which aims to promote the active engagement of rural youth in the lives of their local communities. The Project participants develop leadership skills, project thinking and care for the environment by developing their personal projects. The best students who have passed the leadership and project management workshop *Uprise!* receive a grant and the opportunity to implement their own projects designed to improve the lives of their communities.



In 2020, due to quarantine restrictions, the Project continued online: more than 160 children, mentors, lecturers, organizers and coordinators from 7 Ukrainian

regions took part in the initiative. A total of 41 youth projects in social entrepreneurship, education, ecology and landscaping, culture and sports were developed. As a result, 14 projects of the best participants were fully funded and implemented.

● My Future in Agriculture Project

Astarta started implementing the *My Future in Agriculture* Project in 2018 to make modern agricultural sector interesting for the school children and provide them career guidance. As part of the project, children are taught the basics of agricultural production using the *Agrosphere* textbook developed by Uman Agricultural Lyceum with Astarta's support. The schoolchildren are introduced to various professions in the agricultural sector through excursions to automated production and fields, where high-tech equipment operates. The children are also engaged in their community life by visiting agricultural veterans with nice gifts.

In November 2020, the Project hosted a research paper competition, which demonstrated the innovation of the agricultural sector and the interest of young people in this area. Currently, 25 schools from 5 regions of Ukraine are involved in the initiative with a total of 350 participants.



● **IT Education in Rural Area Project**

The project was initiated by Astarta in 2017 in partnership with the BrainBasket Foundation and Miratech, and is designed to engage children and adults in rural communities in the study of IT.

The children's course is designed for schoolchildren from 9 to 15 years old, who get acquainted with the visual programming language Scratch (developed by the Massachusetts Institute of Technology) and develop their own software for Mbot robots under the robotics component of the Project. Every year, educational hackathons and thematic competitions are held for children, where project participants apply acquired knowledge and skills, while creating their own applications, games or cartoons.

The adult course is designed for people over 40 and aims to teach participants basic IT skills.

So far, about 600 adults and 900 children from villages and settlements in Poltava, Khmelnytsky, Vinnytsia, Kharkiv, Cherkasy and Chernihiv regions of Ukraine have taken part in the Project.



● **Smart Impulse for the Community Project**

Since 2019, Astarta, jointly with the Swiss Embassy and Deloitte, is implementing a project for the Volochysk territorial community, which aims to improve the socio-economic

development of the Volochysk community in the Khmelnytsky region.

In 2020, a comprehensive and professional diagnostics of the community was carried out, which made a sound basis for further scenario development, identified key challenges and prospects for development. In addition, a hackathon identified the needs, aspirations and expectations of the local residents. Based on the results of 2 initial stages of the project, the goals for 2021 were determined: first of all, it is development of the growth strategy for the Volochysk community and elaboration of the niche enterprise / cluster in this community.



*In 2020, Astarta spent **UAH 53.7 mln** on social investments and **UAH 39 mln** on environmental protection and labour protection.*

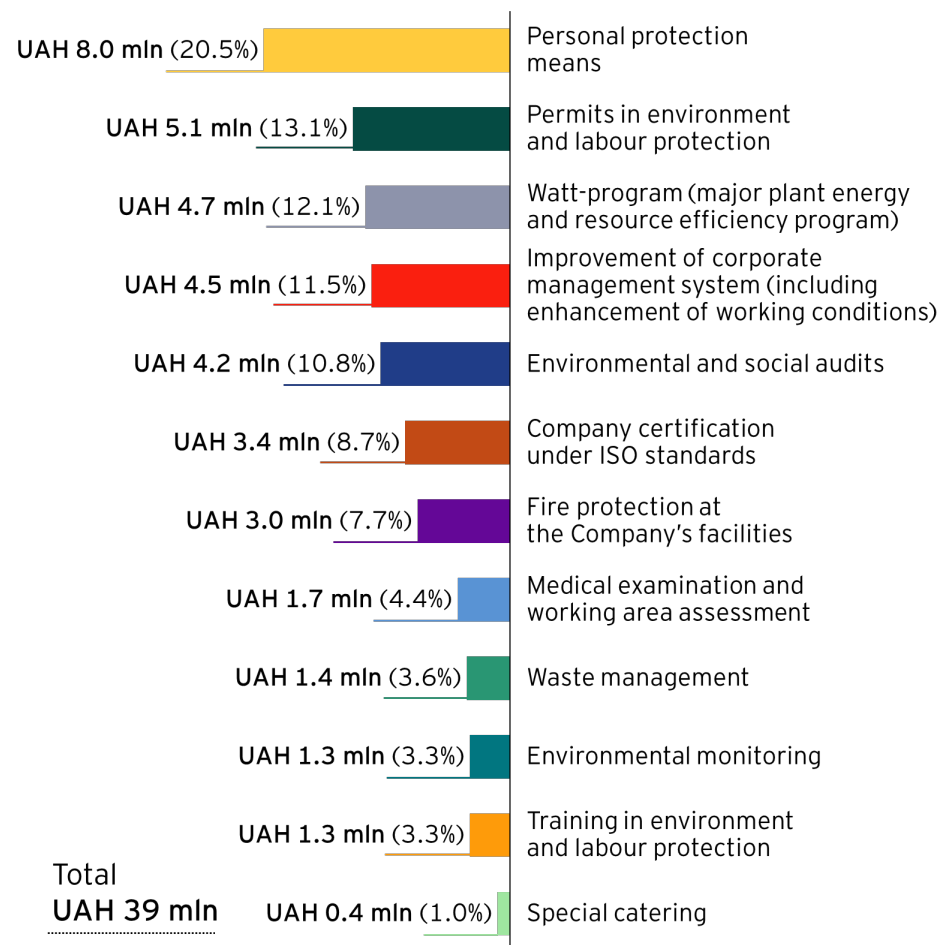
Investments in labour and environmental protection

During 2020, Astarta actively raised funds for environmental protection and labour protection programs, in addition to its social projects. The company makes significant efforts to preserve the environment and improve the well-being of both its employees and local communities.

The total Company's investment in environmental protection and labour protection amounted to UAH 39 mln in 2020. Of these, most funds were spent to purchase personal protective equipment (UAH 8.0 mln or 20.5%), permits in labour protection and the environment protection (UAH 5.1 mln or 13.1%) and Watt program (energy and resource efficiency program at the sugar plants) (UAH 4.7 mln or 12.1%).

In 2020, for the second time Astarta was awarded silver medal from EcoVadis, the international rating platform, which assesses the activities of companies in the field of corporate social responsibility. The assessment methodology is based on 4 main criteria, including environmental protection and labour relations.

Astarta's investment in environment and labour protection programs in 2020



9. Research methodology



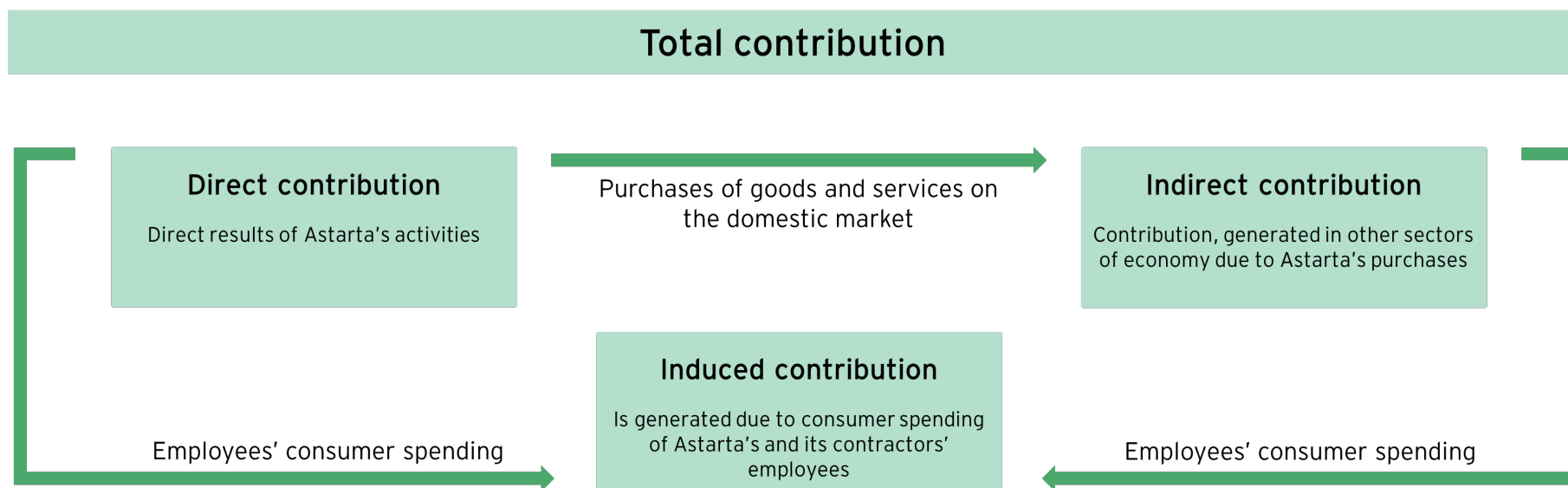
Research methodology

The assessment of the total contribution of Agri-industrial holding Astarta-Kyiv to the Ukrainian economy is performed by using the input-output model. Its theoretical basis was developed by the famous economist Wassily Leontief. In 1973, the scientist was awarded the Nobel Prize in Economics for the creation and development of the input-output model and for its application to important economic issues.

The input-output model shows how the economic activity of one sector generates demand for products of other sectors, thereby stimulating their development. That is why it is also

called the intersectoral balance model. With this model we can analyse the impact of Astarta's activities on other sectors and on the economy as a whole.

The total contribution of the Company to the country's economy includes not only its direct economic results, but also the effects arising from the intermediate consumption (purchases) of the company and its employees' consumer spending. The purchases create demand for contractors' products, which stimulates their business activity.



For example, Astarta purchases equipment and thus supports the machine-building enterprises, which, in turn, create demand for products of the metallurgical, transport and other sectors of the economy. The total contribution also includes the impact of consumer demand of employees, who get salaries and wages from the Company and its contractors, on various sectors of the economy.

In such a way, the economic impacts of the Company spread in waves to other sectors. Accordingly, the total contribution to the economy is calculated as the sum of its components: direct, indirect and induced contributions.

Direct contribution is the direct results of the Company's activities, such as income, value added generated by the Company, the number of jobs created in the Company, etc.

The indirect and induced contributions reflect the Company's impact on the country's economy, i.e. assess the additional effect that emerges in other sectors of the economy as a result of its activities.

Indirect contribution is an additional effect that arises in the supply chain due to Astarta's purchases in the domestic market. The indirect contribution reflects additional income, value added, jobs, wages and taxes generated by the Company's direct suppliers and its "indirect suppliers" (i.e. those the direct suppliers purchase their products from).

Induced contribution is created due to consumer spending of the Company's and its contractors' employees. It includes the additional economic effect (income, value added, jobs,

etc.) that arises in the sectors of the economy that produce consumer goods and provide services to the Company's employees and the employees engaged in the entire supply chain.

The Astarta's total contribution to the Ukrainian economy is assessed by the following indicators:

- **Contribution to the output of goods and services** (hereinafter - the output)

At the macroeconomic level, the output includes intermediate consumption (i.e. the cost of purchased products for production purposes) and the value added created by business units. At the company level, the indicator is equivalent to sales or revenue.

- **Contribution to GDP** (or to gross value added)

This indicator is equal to the value of the final products and reflects the value added generated by the company in its production activities. At the company level, value added is defined as the difference between its income and intermediate consumption, i.e. the cost of purchased goods and services.

- **Contribution to employment**

The indicator reflects the contribution to job creation in the economy.

● Contribution to labour income

The indicator reflects the amount of labour income received by employees as salaries and wages.

● Tax contribution

This is the amount of tax payments and levies paid to the state. Taxes are the main source of revenues to the State Budget of Ukraine. In particular, in 2020, tax revenues accounted for 82.6% of the total revenues of the Consolidated Budget of Ukraine⁸.

The simulating using the input-output model includes calculation of a **multiplier** for each indicator mentioned above. The multiplier is a coefficient that shows how the direct activities of the Company affect the change of macroeconomic indicators in the economy of Ukraine. For example, the employment multiplier shows how many jobs are generated in the economy due to 1 job created in Astarta.

This report also provides additional information on the impact of Astarta on the development of industrial and social infrastructure in Ukraine. The report includes the information about the Company's capital investments, as they are the basis for a long-term recurring economic process. As a result of capital investments, fixed assets are replaced with more efficient ones, the innovations that enable further development of the Company and the economy of the country are introduced. In addition, the report provides information on

the value of Company's exported products compared to total exports from Ukraine. The report also contains information about the Company's social projects, describing its positive impact on addressing certain social issues. Astarta's costs for the implementation of such social projects in this report are called *social investments* of the Company.

For the purposes of this research, the sources of information included national accounts data, specifically the input-output table and other statistics of the State Statistics Service of Ukraine, the Pension Fund of Ukraine, and the State Treasury Service of Ukraine. In addition, the research uses the direct data from Astarta on its results, including revenues, expenditures, purchases of goods and services, salaries and wages, taxes and other payments to the state, capital and social investments, etc. In order to avoid double counting and not overestimate the total contribution of Astarta, the intragroup transactions are excluded from the Company's data.

The study covers the calendar year 2020 and includes an assessment of the activities of Agri-industrial holding Astarta-Kyiv: Astarta-Kyiv LLC and its 33 subsidiaries.

⁸ Calculated based on the data of the State Treasury Service of Ukraine on the revenues to the Consolidated Budget of Ukraine, <https://www.treasury.gov.ua/storage/app/uploads/public/606/321/532/6063215327ba6706726210.xlsx>

About EY

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients.

For more information about our organization, please visit ey.com.

© 2021 Ernst & Young Audit Services LLC

All Rights Reserved

This publication was prepared by Ernst & Young LLC for Astarta-Kyiv LLC based on the information provided by Astarta-Kyiv LLC as well as official publicly available data. The information on the Astarta-Kyiv LLC performances (revenues, purchases, cost of services, number of employees, wages, taxes, capital investments, social investments, etc.) was provided by the Company's management. The information is not verified or checked by Ernst & Young LLC. Ernst & Young LLC does not provide an opinion on the information or the results of the analysis, nor does it provide any other confirmations.

Ernst & Young LLC relied on the completeness, accuracy and reliability of all information obtained from public sources (State Statistics Service of Ukraine, State Tax Service of Ukraine, Pension Fund of Ukraine and others). The conclusions of this publication depend on the completeness, accuracy and fair presentation of information by its suppliers.

This publication is for general information purposes only and shall not be construed as a recommendation on accounting, tax, legal or other professional matters. All examples and comparisons of the impacts of Astarta-Kyiv LLC with the national statistics contained in this document are provided for illustrative purposes only and are not direct results of Astarta's activities.

The information in this publication aims to outline the covered topics. It should not be seen as comprehensive, sufficient for decision-making, nor should it be used instead of professional consulting. Ernst & Young LLC is not liable for any damages caused by any acts committed or not committed by anyone using this publication.