



BUSINESS PLAN

**FINANCIAL AND ECONOMIC SUBSTANTIATION OF PROFITABILITY AND
PERFORMANCE OF THE ORGANIZATION OF ACTIVITIES FOR THE
PRODUCTION OF ELECTRIC MOTORS OF DIFFERENT POWER IN THE
REPUBLIC OF UZBEKISTAN**

CONTENT:

- 1. Objective of the project**
- 2. Customer project**
 - 2.1. The situation in the market, the existing business relationships and goodwill.
 - 2.2. The potential of existing and projected
- 3. project strategy**
 - 3.1. Assortment and characteristics of the products
- 4. Market and marketing concept ***
 - 4.1. introduction
 - 4.2. The main characteristics of the market
 - 4.3. Product Characteristics. Market demand
 - 4.4. Review of local industry
 - 4.5. Import Export
 - 4.6. Prospects of development of the industry in the medium and long term
 - 4.7. Qualitative characteristics
 - 4.8. Pricing system on the market
 - 4.9. Legislation
 - 4.10. Summary and Conclusions
- 5. Material resources**
 - 5.1. The classification of raw materials and components
 - 5.2. Project demand for materials and components
 - 5.3. Energy supply
- 6. Site location**
 - 6.1. Feature portion
 - Production structure, property complex
- 7. Technology and Design**
 - 7.1. Production capacity and the development of data
 - 7.2. The production plan in accordance with the project
 - 7.3. Technology and Equipment
 - Manufacturing process
 - Main production equipment
 - 7.4. Manufacturers and suppliers of equipment
 - 7.5. Construction
- 8. Organization of production and overhead costs**
 - 8.1. The organizational structure of the enterprise
 - 8.2. Overhead costs (works general and administrative)
- 9. workforce**
 - 9.1. The need for a labor force
 - 9.2. To the staff requirements, the need for and the organization of their education
- 10. Driving the project**
 - 10.1. Project implementation stage
- 11. Financial evaluation**
 - 11.1. A set of capital project expenditures
 - 11.2. Total costs for products sold
 - 11.3. Estimation of economic efficiency, taking into account the payback
 - 11.4. Amortization of non-current assets
- 12. Calculation of profits and losses**
 - 12.1. Calculation of profits and losses of the enterprise
- 13. Cashflow Calculations**
 - 13.1. Statement of cash flows
- 14. Risk factors**
- 15. Findings**

Memorandum Privacy

This business plan is submitted to the investor only to decide on the financing of the project and can not be used to copy in any form or for any other purposes, as well as to third parties.

Taking this to the business plan, the recipient (except group of persons defined by senior management Company) takes responsibility and guarantee the return of the copies of the Enterprise set forth in this Business Plan address, if he does not intend to invest in this project.

All data, evaluations, plans, proposals and conclusions presented in this project related to its potential profitability, production volumes, costs, profit margins, the future of its level, cash flow and other financial indicators, based well on the agreed opinion of the management and shareholders of the Company .

The present business plan put the raw data provided by the Company. All prices are taken as of "16" in September 2019.

The views and conclusions contained in this business plan, do not necessarily reflect the views and conclusions of the consumers of the information.

The technological part of the project developed in conjunction with specialists and equipment supplier and foreseen to be installed under this project technological equipment corresponding to the common enterprise technology and has a conjugation of all technological transitions to create an industrial complex for the production of electric motors of different capacities.

Project Summary:

Kind of activity:	Production of electric motors of different capacities	Objective of the project:	Creation of a modern plant for the production of electric motors of different capacities
The production capacity of the production:	4529 286,00 pcs. finished products per year.	Area information:	Uzbekistan, Tashkent, Tashkent region
Project cost:	25,627,732 \$ US	The area of the land:	3.2 hectares
Cost of equipment:	16 million \$ US	New workplaces:	264 people
The cost of the PBX:	800 000 \$ US	Sales market:	The Republic of Uzbekistan
Cost of construction:	3 000 000 \$ US	workload on years:	1 year and 20% 2-year 30% 3 year or 40% of 4-year 50% 5 year-70% 6 year-90% 7 year 100%
cost of raw materials and materials:	\$ US 3 132 580 (reserve for 1 month at 100% load equipment)	Total sales: Just 6 YEARS	212 801 309 \$ US
Other fixed assets:	300 000 \$ US	Total sales for 6 YEARS	12.4 million. One unit of product.
Net margin:	25%	Breakeven point:	6.9%
Recoupment of the project taking into account the 20% discount:	6th YEAR	NPV on 6th YEAR	\$ US 3 699 352
accumulated Earnings per 6 YEAR:	80 288 284 \$ US	IRR on 6th YEAR	24%
The cumulative cash flow at 6 YEAR:	92 669 143 \$ US	Recoupment of the project without taking into account the discount:	4th YEAR

1. Objective of the project

Result Business Plan aims to provide an objective description and information on the feasibility and advisability of organizing and creating a modern plant for the production of electric motors of different capacities.

When laid in the calculation of income and expenses of the project it is efficient, financially sound with an average level of risk.

Cost of the project, the necessary documentation, as well as the cost structure around the project provided in the annex to the Business Plan.

Prospects for the development of this project are:

- ❖ Great demand for electric motors on the market of the Republic of Uzbekistan;
- ❖ Lack of speed and mobility demand in the market;
- ❖ The lack of high quality motors of different capacities on the market;
- ❖ Rapid turnover of funds;
- ❖ Quick payback on investment.

Besides:

- ❖ Thanks to the creation and organization of a modern plant for the production of electric motors planned gradual increase in the speed of future production;
- ❖ Expanding consumer base and the opportunity to become one of the largest producers in the Republic of Uzbekistan.

Refinancing of the profits and a further increase in production volumes will further increase profits and ensure stable operation of the organization in the future.

This project represents the creation and organization of a modern plant for the production of electric motors of different capacities.

The modern plant will organize the production of electric motors to create production capacity and jobs in the region.

Objectives of the project:

- The organization and the establishment of the production of electric motors of different power plant.
- Infrastructure development.
- Implementation of activities on a full cycle.
- Creation of production volumes at planned capacity due to the use of advanced technology and modern equipment.
- The conquest and preservation of a portion of the internal consumer market.
- The implementation of sound production and sales policy to meet the strategic goals of the enterprise.
- Conducting independent research, to update range of finished products.
- Further development and expansion of the company.
- Ensuring their income-earning owners, creation of conditions for the disclosure of entrepreneurial, creative and spiritual potential of employees.

The strategy developed by the project meets the following priorities of the structural transformation of the economy:

- *Increased capacity of the production sector of the Republic of Uzbekistan;*
- *The development of the industry as a whole, as the saturation of the market with quality products.*
- *The use of modern equipment;*
- *The active social policy aimed at creating more jobs and better working conditions, the growth of real incomes and consumption.*

The project will:

For the district's economy:

- To contribute to the regional economy, provide the domestic market with quality products at reasonable prices;
- Improve the social climate in the region (by creating new jobs, and the replenishment of a profitable part of the budget).

For the organizers of the project:

- Securely invest funds through the creation and development of the enterprise;
- To profit from the sale of electric motors of different capacities.

The basis of the calculations and conclusions on a series of documents on the company:

- ✓ *Costing*
- ✓ *The parameters of the planned volume of production*
- ✓ *Analysis motors production technology;*
- ✓ *Specifications for water supply engineering plant, electricity;*
- ✓ *Specifications for the transportation of finished products;*
- ✓ *Methodology for planning, accounting and calculation of production costs;*
- ✓ *The taxation system;*
- ✓ *Regulations on the procedure for determining amortization and depreciation charges referring to the cost of production;*

Based on the macroeconomic and financial results of the project, its high efficiency and low sensitivity to the risks identified, it is believed that the project can be implemented in the current economic environment and subject to inherent baseline.

The calculations shown in the annexes to this business plan are made only on the basis of a new organized activities, as the company will be exclusively focused on this activity, and the company currently has no plans to implement other activities.

2. Customer project

Name:	Association «UZELTEXSANOAT»
Address:	100047 Republic of Uzbekistan, Tashkent, Amir Temur Street, 13.
Project Objectives:	Organization of production of electric motors of different capacities by means of investment.
Information:	Phone: (+998 71) 232-34-29 Fax: (+998 71) 232-34-82 Web site: www.uzeltexsanoat.uz Email: info@uzeltexsanoat.uz

2.1. The situation in the market, the existing business relationships and goodwill.

According to market research company GfC last year, global sales of home appliances and electronics for the first time has exceeded 1 trillion euros. This year, GfC expects sales growth by 2%, so that the global market will grow to a level of 1.03 trillion euros.

The figure of one trillion have 4% more than in 2018. Sales increased telecommunications segments (+ 7%), small household appliances (+ 7%), consumer electronics / photo (+ 6%) and IT / office equipment (+ 1%). In the segment of large home appliances sales fell by 1%.

Position as the largest market in 2019 continues to hold the Asia-Pacific region with a market share of 42%, it is followed by Europe (25%), North America (20%), Latin America (7%) and the region of the Middle East / Turkey / Africa (6%). Chief Expert GfC Markus Kick said that the achievements trillion market for household appliances is a landmark moment for retailers and manufacturers.

Large Appliances - still the second largest segment of the market. it sales totaled about 177 billion euros. For household appliances (refrigerators, microwave ovens, washing machines) last year accounted for about 17% of the market sales. Growth last year showed markets in Latin America (+ 6%), Europe (+ 3%) and Asia Pacific (+ 2%). According to forecasts of the GfC, in 2019 continued global growth, sales will increase by 6%.

Small appliances sales reached EUR 86 billion last year. The main contribution belongs to China, due to which the Asia-Pacific region was the dynamics of 13%. In Latin America, the Middle East / Turkey / Africa, sales rose 10%. In Europe, the figure is 7%. RPM decrease was in North America, 2%.

2.2. The potential of existing and projected

Ministry of Economy and Industry has developed a draft decree of President with the concept of further development of the electrical industry in Uzbekistan until 2025.

It says that the market for electrical engineering industry is also characterized by a high proportion of imports of finished products in the sector of household appliances and power equipment. In 2018 imported products worth \$ 788 million, of which 41% are for products manufactured in the same country.

It also says that in the electrical products manufacturing sector, especially home appliances and electronics, currently a major problem in the domestic market is growing smuggling of goods annually.

It was found that the raw material basis for the localization of electrical products in the country is extremely limited, as in the country there is no production of essential raw materials, such as aluminum, sheet metal, polyvinyl chloride and polystyrene, as well as the need to prepare raw motors and compressors.

The industry experienced a problem with a deficit of working capital, which along with high lending rates leads to an increase in the cost of production and reduces the competitiveness of products in foreign markets, limited opportunities for development and expansion.

Along with the objective geographical location of the country, the possibility of expansion of export activities are limited by high transport costs (up to 10% of the cost of the finished product), non-tariff barriers, as well as the high level of competition, aggressive pricing policies of individual players and the protective measures in foreign markets.

In the electrical industry there is a shortage of qualified engineering personnel and the lack of an effective system of training and engaging. Branch does not have the scientific capacity to create and implement advanced and innovative technologies. The number of laboratories and test bases is insufficient and their level of equipment of modern research equipment - low.

3. Project strategy

3.1. The product range

Initiator of the project plans to become a manufacturer and supplier of electric motors. The company plans to present to the implementation of electric motors following capacities:

Name of products
Motor over 0.03 to 0.18 kW
Motor over 0.18 to 0.6 kW
The electric motor of more than 5.5 to 10 kW
The motor over 10 to 15 kW
The motor over 75 to 100 kW
The electric motor of 100 to 125 kW
Motor more than 250 to 320 kW

- 4. Market and marketing concept**
 - 4.1. Introduction**
 - 4.2. The main characteristics of the market**
 - 4.3. Product Characteristics. Market demand**
 - 4.4. Review of local industry**
 - 4.5. Import Export**
 - 4.6. Prospects of development of the industry in the medium and long term**
 - 4.7. qualitative characteristics**
 - 4.8. pricing system on the market**
 - 4.9. Legislation**
 - 4.10. Summary and Conclusions**

SWOT - Analysis

SWOT-analysis, the definition of strengths and weaknesses of the enterprise, as well as the opportunities and threats arising from its immediate environment (the external environment).

Strengths - the benefits of the organization;

Weaknesses - Organization disadvantages;

Opportunities - environmental factors, the use of which will create value to the organization in the market;

Threats - factors that can potentially worsen the situation of the organization in the market.

SWOT - analysis is an important part of the situational analysis, and allows you to answer the following questions:

- Which it is for the Enterprise of strengths, weaknesses, opportunities and threats?
- How can you take advantage of opportunities, using the strengths of the company?
- What are the weaknesses of the enterprise may be used to prevent the opportunities?
- From what strengths can neutralize existing threats?
- What threats, aggravated by weak enterprise parties, should be most wary of?
- How strong competitive position of businesses?



In general, conducting SWOT-analysis boils down to the filling of so-called "matrix SWOT-analysis", which has the following form: left stand two sections (strong and weak side), in which respectively entered all identified at the first stage of the analysis the strengths and weaknesses of the organization . In the upper part of the matrix as there are two sections (opportunities and threats) into which they are introduced all the identified opportunities and threats

Qualitatively determine the list of strengths and weaknesses of the enterprise on the basis of expert estimates, their relationship to the opportunities and threats and make up the matrix of SWOT - analysis.

Identification of strengths and weaknesses is an internal aspect of the analysis. Strengths are the basis for the development strategy of the enterprise, at the same time determine the weaknesses of the need to conduct on the part of the company's management activities aimed at eliminating these disadvantages.

Strengths	Weaknesses
The image of a stable and reliable company, which allows to attract additional consumers	Relative dependence on changes in the exchange rate and the presence probability of modification schemes and execution of transactions in the system of national commodity exchange markets, both from the organizers of the auction, and the state.
Automation equipment: The products at the output of a high-quality performance. Ensuring the production process thanks to the uninterrupted power sources	
Full compliance with the international quality assurance system	The probability of changing the legislative and normative-legal acts, regulating and governing the business in the country, leading to changes in activity and worsening conditions
High qualification and competence of personnel	A new player on the market with no established reputation
Modern production technology and a high level of technical equipment	
Automated equipment of high accuracy and reliability	
Low operating costs and equipment	
	Not established relationships with suppliers of raw materials

Opportunities	Threatening
Creating a high-tech production	The presence of strong competitors, the emergence of new competitors in the sphere of production
Creating a high-quality working conditions	Reducing the solvency of potential customers
Access to new international and domestic markets	Rising prices from suppliers of necessary raw materials for the production of
High rates of growth of production capacity in the country	Presence in the market of vertically integrated players with a guaranteed market for their own production
A sufficient amount of raw material suppliers local production	
The growing share of industry in GDP	Lack of markets for the finished products.

Sales software, sales organization

There are a lot of marketing moves in order to increase sales of their products. However, sales of the scope is fairly specific. That is why to make quality advertising, which would be an exhibitor in the best possible light, very hard.

Sales of products is an integral part of the activities of organizations in market conditions. The company can count on a real commercial success only if rationally organized the marketing of products. In the chain "production-distribution-exchange-consumption" on the share of sales activity account for three of the last link.

The effective functioning of any business is impossible without well-organized sales services. For the sale of goods organization should carry out a set of targeted actions to ensure the movement of goods in the market space.

However, the high efficiency of product sales can only be achieved if the marketing activity of professional management.

Sales organization in the organization and management plays a very important role in the sense that provides feedback to the production to the market, is a source of information on the demand and consumer needs. Therefore, sales policy development forms the basis of the marketing program on how each product and for the separation of production as a whole. If on the basis of calculations it turns out that the cost of implementation of a new product are too high and do not allow for a certain level of profitability, the management of the production department may decide not appropriate for further development and introduction of this product. Experts marketers can not only determine the future profitability of products,

In the process of the organization sales management problem is solved already at the policy development stage company. Speech on the selection of the most effective system of channels and marketing techniques for specifically certain markets. This means that the production from the beginning focused on specific forms and methods of marketing, the most favorable conditions. Therefore, the development of marketing policy is aimed at determining the optimal direction and resources needed to ensure the greatest efficiency of the process of sale of goods. This presupposes an informed choice of organizational forms and methods of marketing activities aimed at achieving the planned outcomes.

Sales program

The price policy of this project formed the basis of the data of the existing rates in the market. Using these data were generated following prices for its products.

Cost of production:

Name of products	Selling price in the domestic market with VAT		VAT excluded domestic sales	
		\$ US		\$ US
Motor over 0.03 to 0.18 kW	PC.	3.51	PC.	3.28
Motor over 0.18 to 0.6 kW	PC.	34.94	PC.	32.69
The electric motor of more than 5.5 to 10 kW	PC.	164.32	PC.	151.63
The motor over 10 to 15 kW	PC.	201.45	PC.	187.76
The motor over 75 to 100 kW	PC.	470.82	PC.	443.34
The electric motor of 100 to 125 kW	PC.	811.32	PC.	767.71
Motor more than 250 to 320 kW	PC.	2 714.12	PC.	2 572.85

Index increase in the cost of production of 5.4% was used in the calculation of the sales plan. This decision was taken due to the annual increase in prices for raw materials, materials and energy.

5. Material resources

5.1. The classification of raw materials and components

One of the most important elements in the production of a material resources from them depends on the continuity and stability of production.

- Availability of raw materials, proven reserves of raw materials

To date, the market is full of companies engaged in the supply of raw materials needed for production.

Below is a list of possible cooperation organizations to deliver the necessary raw materials for the production of electric motors of different capacities:

<p>Anshan Iron and Steel Co., Ltd.</p>  <p>Metal, Cast Iron</p>	<p>A country: China City: Anshan Provinces: Liaoning Area: Tiexi</p>	<p>Websites: ansteel.com.cn</p>
<p>JSC "Almalyk MMC"</p>  <p>Metal, copper wire</p>	<p>A country: Uzbekistan City: Almalyk Str. Temur, 53.</p>	<p>country code: +998 Phone: (71) 141-90-99 email: info@agmk.uz</p>
<p>JV "Artikul Aziya Kabel"</p>  <p>Copper wire</p>	<p>A country: Uzbekistan City: Tashkent Neighborhood: Sergeli Str Yeltsin, h. 1a, South Industrial Zone</p>	<p>country code: +998 (71) 257 43 44 email: aak.marketing@yandex.ru</p>
<p>IN TOO "KAZMETSERVIS"</p>  <p>Metal</p>	<p>A country: Kazakhstan City: Almaty Str. municipal, h. 3 B, 3rd floor</p>	<p>Phone: 7 (7273) 123444 email: info@kzmc.kz Website: kzmc.kz</p>

Ltd. Mining Equipment Plant Promek



Spare parts and components for electric motors

A country: Russia

City: Yekaterinburg
Str. Shchorsa 7, office 322

Phone:

(343) 286-20-12

email:

info@promek-ural.ru

Websites:

www.promek-ural.ru

These companies have been selected as potential suppliers of industrial raw materials required.

Also, the company occupies a leading position on the delivery of raw materials for production.

- The main raw materials

One of the most critical moments of decision, which depends on the continuity and stability - is to ensure raw material. In a market economy, and raw materials for production are under scrutiny, both in quantitative and qualitative terms, as are over a significant proportion of the cost of the final product, and significantly affect the quality of the products.

These costs for raw materials are taken on the basis of the planned rules cost production costs and details are specified in the design of the project in the application.

5.2. Project needs, and ensuring the availability of materials and components, their classification, supply program

Material procurement and sales system - to ensure an uninterrupted supply of plant and auxiliary materials necessary for the operation of the rhythm of production and organization of timely product sales.

Usually logistics system is not organized for each department, and for the whole plant (supply of raw materials is carried out through a system of warehouses, in accordance with the design requirement).

5.3. Energy supply

The modern enterprise is a major consumer of energy resources necessary for the process of production, as well as for the normal functioning of the business units. Under the energy resources we understand all available resources that are consumed in the production and viability of the Company who participate in mutual settlements with external suppliers and between departments. To them we include electricity, thermal energy, a variety of technical gases and special fluids, sewage. Thousands of kilowatt-hours, and a large number of Gcal of heat and other energy uses modern industrial enterprise.

Selection of the most cost-effective energy should be based on a comprehensive solution of issues of energy, technology, organization of production and the economy through a comparative analysis of unit costs (consumption rates) process fuel and energy, non-recurring expenses for the development and implementation of measures to reduce standards.

Consumed energy can now be purchased from both purchased and produced in-house. The enterprise can produce electricity - on the rating power plant, steam and hot water - a boiler, generating gas -

generating station. Supply company has specific features, consisting of the need for immediate use of the energy produced and uneven demand for it during the day and time of year. Therefore, the uninterrupted supply of energy should be ensured through the establishment of reserves of power equipment capacity.

Large losses of pressure in the air network with their considerable extent does not allow for a centralized maintenance of the enterprise with compressed air, even within the company. Typically, stationary or mobile compressor stations are used to supply compressed air disposed near the consumer shops.

Centralized supply system ensures reliable and uninterrupted supply of energy and reduce enterprise operating costs of production and non-recurring costs associated with obtaining the necessary enterprise energy.

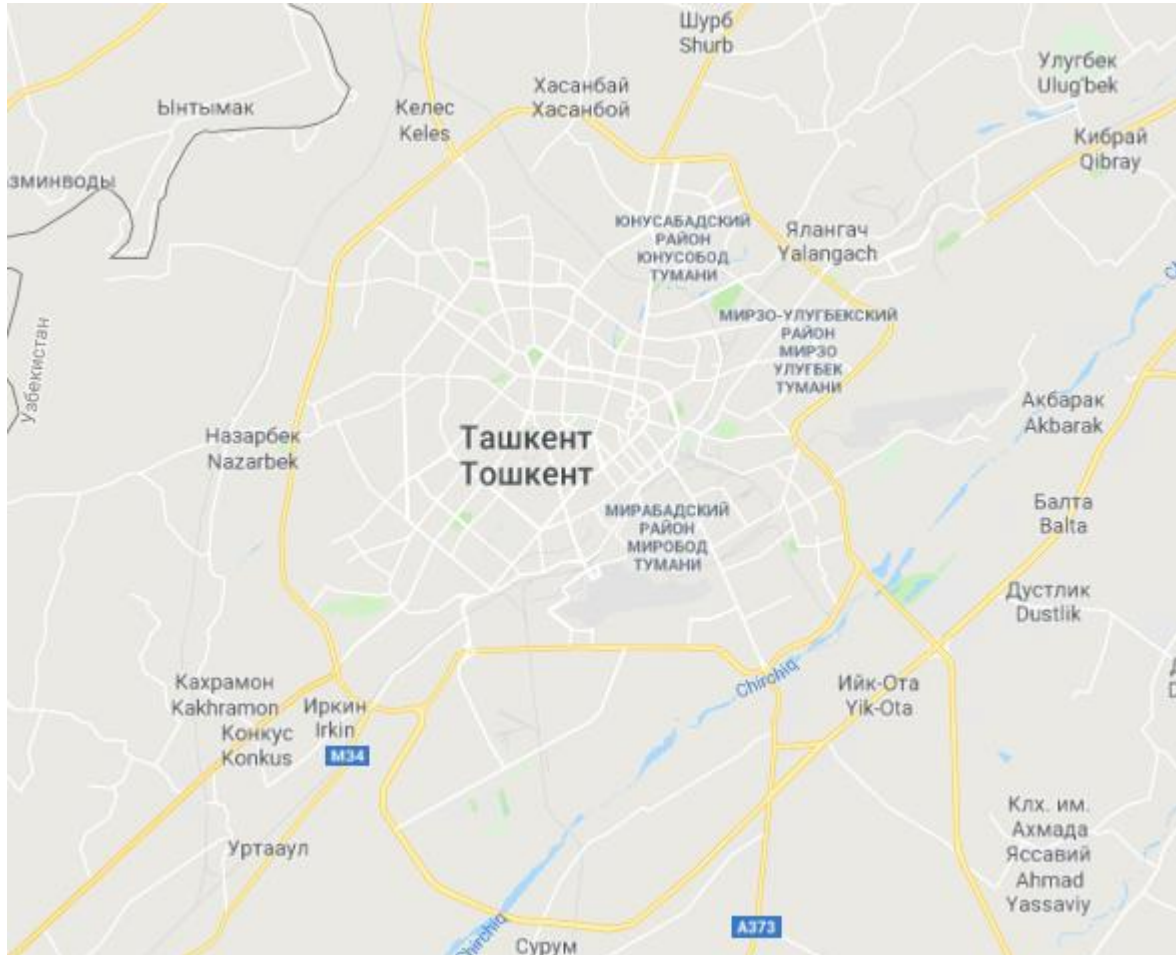
Name	unit of measurement	monthly demand	unit cost	Monthly cost
			\$ US	\$ US
electric power	kW / h	1321 041.7	.0474	62576
Water	m3	1 130.0	0.0895	101
Garbage	m3	1.5	4.4105	7
TOTAL				62683

Name	unit of measurement	Annual demand	unit cost	annual cost
			\$ US	\$ US
electric power	kW / h	15 852 501.0	.0474	750908
Water	m3	13 560.0	0.0895	1213
Garbage	m3	18.0	4.4105	79
TOTAL				752201

6. Site location

6.1. Feature portion

Estimated location for construction of a plant for the production of electric motors of different capacities will be in the city of Tashkent, Tashkent region.



- **Production structure, property complex**

Recommended total area for the organization of a plant for production of electric motors of different capacities of 3.2 hectares.

In the proposed enterprise will be the following production areas and departments: storage of raw materials warehouse, office building, hangars and sheds for storage of necessary equipment.

7. Technology and Design

7.1. Production capacity and the development of data

Justification of potential and actual capacities on production enterprise incorporated in the means of labor, is the basis for the formation of its production program.

Production capacity - a measure that reflects the company's ability to maximize (subdivision, consolidation or sectors) for the implementation of commercial output in natural silt cost units, related to a specific time period (shift, day, month, quarter, year).

Quantitative values of production capacity due to the scientific and technical level of production technology, the nomenclature (range) and product quality, as well as the peculiarities of work organization, the availability of energy, raw materials and labor resources, the level of organization of labor, specialization and cooperation, bandwidth transport, storage and distribution services. The instability of the factors affecting the value of production capacity, generates a plurality of index, so they are subject to periodic review. In production management practice, there are several types of concepts that characterize the production capacity: the design, the launcher, the development, the actual, planned, input and output over the period inputted, outputted, carrying.

In general, the production capacity can be defined as the maximum possible production in the same period of time with the designated conditions of use of the equipment and production resources (space, energy, raw materials, human labor). A leading factor in the production capacity and determining its name, is equipment that is part of a means of changing the material of the production process.

The simplest and most accurate gauges of production capacity are natural units:

Production capacity is measured, as a rule, in the same unit in which the planned production of the product in real terms (tons, pieces, meters). For example, the production capacity mining enterprises determined in tons mining, metallurgical plants - in tonnes metal smelting and production of rolled products; engineering plants - in pieces manufactured machines; capacity of sugar mills and other food industry - in tons of raw materials, processed into finished products.

Product, which has a wide product scale, production capacity can be expressed in conditional physical units. If the company produces several kinds of products, the production capacity shall be established for each type separately.

The fuller the time used capacity, the more output is produced, the lower its cost, the more quickly the manufacturer to accumulate funds for the reproduction of production and improvement of the production system: replacement of equipment and technologies of production and reconstruction of organizational and technical innovations.

The increase in output of existing equipment and production areas through automation and other means of intensification of technological processes reduces the need for new investments, causes a reduction in operating costs, savings in raw materials, improves the ecological safety.

Project production capacity is determined in the design and manufacture reflects its capacity to carry out the project in the operation of the business environment. Actually reached capacity reclaimed called for stable operation. Depending on the development and current state of the production capacity acquired its specific values for the period of start-up of production (start-up), actually prevailing when the current fluctuations in demand for the products of (actual) or in the calculation of production volumes (planned).

During each planning period may vary capacity. The larger the planning period, the probability of such changes above. The main reasons for the changes are:

- installation of new pieces of equipment to replace obsolete or emergency;
- depreciation of equipment;
- commissioning of new facilities;
- change the performance of equipment in connection with the intensification of its mode of operation or in connection with the change of quality of raw materials, catalyst life, adsorbents, cleaning, change of corrosion protection, etc.
- modernization of equipment (replacement assemblies, units, grippers, conveyor elements and the like);
- changes in the structure of the starting materials, raw material composition or intermediates, methods of selecting the fractions of the heat exchange methods, metering calibration etc .;
- the duration of operation of the equipment during the planning period, taking into account stops for repairs, preventive maintenance, process interruptions;
- specialization of production;
- equipment operations (cyclical, continuous);
- organizing repairs and routine maintenance.

Of considerable importance is the increase of production capacity, which is achieved by the technical retrofitting and improving of the production process. Production capacity at the beginning of the period, as a rule - a year, called the input and at the end of period (years) - closed production capacity.

The production capacity of the project is taken on the basis of technical characteristics of equipment. According to the technical specifications for the production of electric motors of different power equipment production capacity is 4529 pcs 286,00 finished products per year, with 100% utilization of equipment. The table below shows the volume of production in the breakdown:

Name of products	measurement units	The volume of production in the year	Production volume per month	The volume of production per day	Production volume per hour
Motor over 0.03 to 0.18 kW	PC.	3 388 000.00	282 333,33	10 858.97	678.69
Motor over 0.18 to 0.6 kW	PC.	1 114 754.83	92 896.24	3 572.93	223.31
The electric motor of more than 5.5 to 10 kW	PC.	7 357.38	613.12	23.58	1.47
The motor over 10 to 15 kW	PC.	7 357.38	613.12	23.58	1.47
The motor over 75 to 100 kW	PC.	7 357.38	613.12	23.58	1.47
The electric motor of 100 to 125 kW	PC.	2 229.51	185.79	7.15	0.45
Motor more than 250 to 320 kW	PC.	2 229.51	185.79	7.15	0.45
TOTAL:		4529 286,00	377 440.50	14 516.94	907.31

When calculating a minimum production capacity breakeven point should be 6.9% of the maximum possible power. In these terms of performance, revenues from sales of finished products will exceed the costs.

Due to the high demand for this type of product and best payback input production capacity of the project is set at 20%. Output production capacity of the project, which will be 100% production capacity is scheduled for 7 year project.

Data on the production plan are as follows:

BUSINESS PLAN

Name of products	By year			
	1 YEAR	2 YEAR	3 YEAR	4 YEAR
DEVELOPMENT OF RANGE (%)	20%	30%	40%	50%
The electric motor over 0.03 to 0.18 kW	20,0%	30%	40%	50%
The electric motor over 0.18 to 0.6 kW	20,0%	30%	40%	50%
The electric motor over 5.5 to 10 kW	20,0%	30%	40%	50%
The electric motor over 10 to 15 kW	20,0%	30%	40%	50%
The electric motor over 75 to 100 kW	20,0%	30%	40%	50%
The electric motor over 100 to 125 kW	20,0%	30%	40%	50%
The electric motor over 250 to 320 kW	20,0%	30%	40%	50%
Production quantities				
The electric motor over 0.03 to 0.18 kW	677 600,0	1 016 400,0	1 355 200,0	1 694 000,0
The electric motor over 0.18 to 0.6 kW	222 951,0	334 426,5	445 901,9	557 377,4
The electric motor over 5.5 to 10 kW	1 471,5	2 207,2	2 943,0	3 678,7
The electric motor over 10 to 15 kW	1 471,5	2 207,2	2 943,0	3 678,7
The electric motor over 75 to 100 kW	1 471,5	2 207,2	2 943,0	3 678,7
The electric motor over 100 to 125 kW	445,9	668,9	891,8	1 114,8
The electric motor over 250 to 320 kW	445,9	668,9	891,8	1 114,8
PHYSICAL unsold goods				
The electric motor over 0.03 to 0.18 kW	56 466,7	84 700,0	112 933,3	141 166,7
The electric motor over 0.18 to 0.6 kW	18 579,2	27 868,9	37 158,5	46 448,1
The electric motor over 5.5 to 10 kW	122,6	183,9	245,2	306,6
The electric motor over 10 to 15 kW	122,6	183,9	245,2	306,6
The electric motor over 75 to 100 kW	122,6	183,9	245,2	306,6
The electric motor over 100 to 125 kW	37,2	55,7	74,3	92,9
The electric motor over 250 to 320 kW	37,2	55,7	74,3	92,9
TOTAL OUTPUT				
The electric motor over 0.03 to 0.18 kW	621 133,0	931 700,0	1 242 266,0	1 552 833,0
The electric motor over 0.18 to 0.6 kW	204 371,0	306 557,0	408 743,0	510 929,0
The electric motor over 5.5 to 10 kW	1 348,0	2 023,0	2 697,0	3 372,0
The electric motor over 10 to 15 kW	1 348,0	2 023,0	2 697,0	3 372,0
The electric motor over 75 to 100 kW	1 348,0	2 023,0	2 697,0	3 372,0
The electric motor over 100 to 125 kW	408,0	613,0	817,0	1 021,0
The electric motor over 250 to 320 kW	408,0	613,0	817,0	1 021,0
TOTAL	830 364,0	1 245 552,0	1 660 734,0	2 075 920,0

BUSINESS PLAN

Name of products	By year			
	5 YEAR	6 YEAR	7 YEAR	Total:
DEVELOPMENT OF RANGE (%)	70%	90%	100%	57%
The electric motor over 0.03 to 0.18 kW	70%	90%	100%	57%
The electric motor over 0.18 to 0.6 kW	70%	90%	100%	57%
The electric motor over 5.5 to 10 kW	70%	90%	100%	57%
The electric motor over 10 to 15 kW	70%	90%	100%	57%
The electric motor over 75 to 100 kW	70%	90%	100%	57%
The electric motor over 100 to 125 kW	70%	90%	100%	57%
The electric motor over 250 to 320 kW	70%	90%	100%	57%
Production quantities				
The electric motor over 0.03 to 0.18 kW	2 371 600,0	3 049 200,0	3 388 000,0	13 552 000,0
The electric motor over 0.18 to 0.6 kW	780 328,4	1 003 279,4	1 114 754,8	4 459 019,3
The electric motor over 5.5 to 10 kW	5 150,2	6 621,6	7 357,4	29 429,5
The electric motor over 10 to 15 kW	5 150,2	6 621,6	7 357,4	29 429,5
The electric motor over 75 to 100 kW	5 150,2	6 621,6	7 357,4	29 429,5
The electric motor over 100 to 125 kW	1 560,7	2 006,6	2 229,5	
The electric motor over 250 to 320 kW	1 560,7	2 006,6	2 229,5	8 918,0
PHYSICAL unsold goods				
The electric motor over 0.03 to 0.18 kW	197 633,3	254 100,0	282 333,3	1 129 333,3
The electric motor over 0.18 to 0.6 kW	65 027,4	83 606,6	92 896,2	371 584,9
The electric motor over 5.5 to 10 kW	429,2	551,8	613,1	2 452,5
The electric motor over 10 to 15 kW	429,2	551,8	613,1	2 452,5
The electric motor over 75 to 100 kW	429,2	551,8	613,1	2 452,5
The electric motor over 100 to 125 kW	130,1	167,2	185,8	743,2
The electric motor over 250 to 320 kW	130,1	167,2	185,8	743,2
TOTAL OUTPUT				
The electric motor over 0.03 to 0.18 kW	2 173 966,0	2 795 100,0	3 105 666,0	12 422 664,0
The electric motor over 0.18 to 0.6 kW	715 301,0	919 672,0	1 021 858,0	4 087 431,0
The electric motor over 5.5 to 10 kW	4 720,0	6 069,0	6 744,0	26 973,0
The electric motor over 10 to 15 kW	4 720,0	6 069,0	6 744,0	26 973,0
The electric motor over 75 to 100 kW	4 720,0	6 069,0	6 744,0	26 973,0
The electric motor over 100 to 125 kW	1 430,0	1 839,0	2 043,0	8 171,0
The electric motor over 250 to 320 kW	1 430,0	1 839,0	2 043,0	8 171,0
TOTAL	2 906 287,0	3 736 657,0	4 151 842,0	16 607 356,0

In the first half year of the project scheduled to work on the preparation of the project to the start of production. Complex measures for the gradual phasing start of the project is of strategic importance to the implementation.

These include: the preparation of all necessary documents for the creation of new production, contracts for the purchase of necessary equipment, industrial raw materials, auto-vehicles for the transportation of finished products and raw materials, carrying out plant construction work, delivery of production equipment, carry out installation and commissioning of production equipment, training and education.

From the data shown in the table shows that when downloading production equipment by 20% the amount of output in the form of different electric capacity is **830 364.0 pieces**.

With an annual increase in production volume by 10-20%, to 7, the volume of the planned production and sales amounted to 4 151 842.0 pieces.

7.2. The production plan in accordance with the project

Annual production program is based on the technical characteristics of the equipment used in the process, the data of marketing research as well as normative and legislative acts on labor, operating in the territory of the Republic of Uzbekistan:

- Production capacity - 4529 286,00 pcs. in year
- The number of working hours per week for production staff (at 6-day working week and one shift system) 48 hours;

Data on the timetable						
Number of shifts per day					change	2.00
Work shift					hour	8.00
The average number of working days in a month					day	26,00
The number of working months in a year					month	12,00
Data on capacity development plan						
Years the project	unit of measurement	2021	2022	2023	2024	
Percentage growth of the volume of production		100%	122%	130%	140%	
Name of products		1 YEAR	2 YEAR	3 YEAR	4 YEAR	
Total production of single-phase induction motors to over 0.03 to 0.18 kW per year	PC.	1 856 800,00	2 268 800.00	2420 000.00	3 388 000.00	
Total production of induction motors over 0.18 to 0.6 kW per year	PC.	500 000,00	610 943.56	796 253.45	1 114 754.83	
Total production of induction motors over 5.5 to 10 kW per year	PC.	3 300,00	4 032.23	5 255.27	7 357.38	
Total production of induction motors over 10 to 15 kW per year	PC.	3 300,00	4 032.23	5 255.27	7 357.38	
Total production of induction motors over 75 to 100 kW per year	PC.	3 300,00	4 032.23	5 255.27	7 357.38	
Total production asynchronous motors 100 to 125 kW per year	PC.	1 000,00	1 221.89	1 592.51	2 229.51	
Total production of induction motors over 250 to 320 kW per year	PC.	1 000,00	1 221.89	1 592.51	2 229.51	

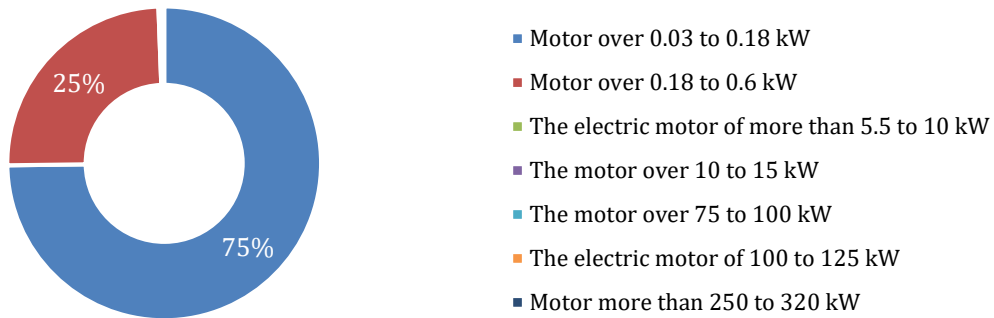
The annual production volume at maximum loading capacity is given in the table.

➤ Production of electric motors of different capacities:

Name of products	Unit measurement	The volume of production in the year	Production volume per month	The volume of production per day	Production volume per hour
Motor over 0.03 to 0.18 kW	PC.	3 388 000.00	282 333,33	10 858.97	678.69
Motor over 0.18 to 0.6 kW	PC.	1 114 754.83	92 896.24	3 572.93	223.31
The electric motor of more than 5.5 to 10 kW	PC.	7 357.38	613.12	23.58	1.47
The motor over 10 to 15 kW	PC.	7 357.38	613.12	23.58	1.47
The motor over 75 to 100 kW	PC.	7 357.38	613.12	23.58	1.47
The electric motor of 100 to 125 kW	PC.	2 229.51	185.79	7.15	0.45
Motor more than 250 to 320 kW	PC.	2 229.51	185.79	7.15	0.45
TOTAL:		4529 286,00	377 440.50	14 516.94	907.31

Name of products	measurement units	The proportion of the total volume in%
Motor over 0.03 to 0.18 kW	%	74.80%
Motor over 0.18 to 0.6 kW	%	24.61%
The electric motor of more than 5.5 to 10 kW	%	0.16%
The motor over 10 to 15 kW	%	0.16%
The motor over 75 to 100 kW	%	0.16%
The electric motor of 100 to 125 kW	%	0.05%
Motor more than 250 to 320 kW	%	0.05%
Total:		100.00%

Share in the total volume of production, in%



The calculations for this project, the predicted production and sale of products are designed taking into account the establishment of the level of development of productive capacities. The first half of the year will go to the delivery and installation of equipment, training facilities, organizational matters.

7.3. Technology and Equipment

- Justification of the choice of technology and equipment, circuits, process, advantages and disadvantages, the reliability of equipment and guarantee vendor

Selection and calculation of technological equipment - a very important stage of the design. Because, as far as qualified to solve this issue in the design will depend on such factors as the quality and yield, productivity, profitability.

The initial data are:

- Flowsheet and production modes;
- Grocery calculations;
- Management mode (plot separation line).

- **Types of motors**

Efficiency and reliability of the equipment is directly dependent on the motor, so it requires a serious approach choice.



By motor electrical energy is converted into mechanical energy. Power, RPM, voltage and power supply type motors are key indicators. Also, the weight and size are of great importance and power indicators.

Electric motors have great advantages. Thus, in comparison with thermal engines of comparable power, the size of the electric motors are much more compact. They are ideal for installation in small areas, such as trams equipment, electric machines and for different purposes.

Their use is not allocated steam and the decomposition products, which provides environmental cleanliness. Electric motors are divided into AC and DC motors, stepper motors, servo motors and linear.

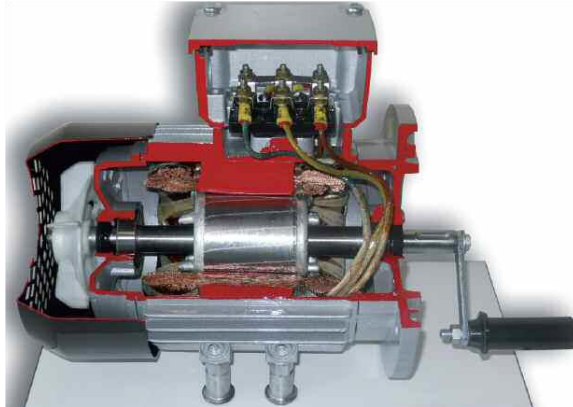
AC, in turn, are divided into synchronous and asynchronous.

DC motors



They are used to create variable speed drives with high dynamic and performance characteristics. These indicators include high uniformity of rotation and reloading ability. They are used for the assembly of paper, dyeing, finishing and handling machines for polymeric equipment, drilling rigs and auxiliary units of excavators. Often they are used for all kinds of electric equipment.

AC motors



Enjoy higher demand than DC motors. They are often used in the home and in industry. Their production is much cheaper, easier and more reliable design, and operation is simple enough. Almost all home appliances equipped with AC motors. They are used in washing machines, kitchen exhaust devices, etc. In modern industry with them driven easel equipment winch for moving a heavy load, compressors, hydraulic and pneumatic pumps and industrial fans.

Stepper motors



They operate on the principle of converting electrical pulses into discrete mechanical movement of the character. The majority of office and computer equipment is equipped with them. These motors are very small, but highly productive. Sometimes in demand in some industries.

Servomotors



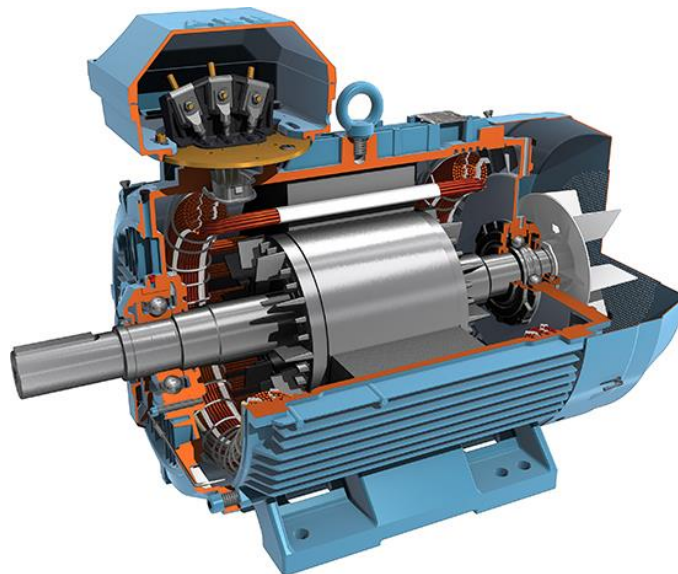
Refer to the DC motor. They are hi-tech. Their work is carried out by using a negative feedback. Such an engine is particularly powerful and capable of a high rotational speed adjustment which is carried out by computer software. This feature makes it popular with the production lines and equipment in modern industrial machines.

linear motors



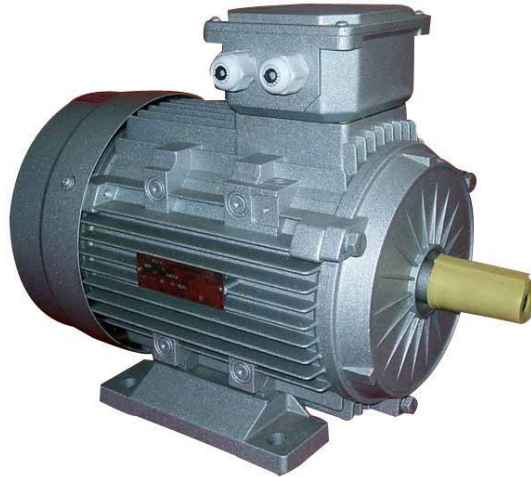
It has the unique ability of rectilinear movement of the rotor and stator relative to each other. Such engines are indispensable for mechanisms whose operation is based on a translational and reciprocating motion of working bodies. The use of a linear motor is able to improve the reliability and efficiency of the mechanism because it greatly simplifies operation and almost completely eliminates mechanical transmission.

Synchronous motors



They are a variety of AC motors. The frequency of rotation of the rotor equals the magnetic field rotational speed in the air gap. They are used for compressors, large fans, pumps and DC generators, as they operate at constant speed.

Induction motors



Also belong to the category of AC motors. their rotor speed different from the speed of the magnetic field that is produced by the current of the stator winding. Induction motors are divided into two types, depending on the design of the rotor: squirrel cage and wound rotor. Stator design in both types is the same, the only difference in the winding.

Electric motors are indispensable in the modern world. Thanks to them, greatly facilitates the work of the people. Their use helps reduce the cost of human effort and make daily life much more comfortable.

Manufacturing process

A process such as the production of electric motors, very manufacturable and is carried out in a number of steps. Initially, the need to purchase and deliver materials and components. A very important point is to carry out the production of motor control service TCI entering the enterprise warehouse materials. This factor is due to the fact that for the production of electric motors only quality materials are required, which ensures the reliability of the finished product.

The sequence of work highly technical production lines for electric motors:

Manufacture of metal components. The most commonly used for this process iron. For iron smelting furnace used, operating on the principle of induction. The very same casting is carried out in special sand-clay forms (wherein, according to the manufacturing technology, the form must be moist).



- I. Production of light metal components. In general, as a raw material mass for this process, aluminum is used. Casting is done in a special mold. The very same process is carried out using a special injection molding machines, providing injection molding.
- II. Preparation of polymeric components in the manufacture of electric motors. Technological operation is provided with special equipment -injection molding machines.
- III. Harvested shaft. The shaft is made of metal-roll. For preform under gross device to cut a piece of the product, installed length.
- IV. Fastening compound in the manufacture of electric motors. Purchased or produced by individual shops machining. It is worth noting that additional processing are only hardware of all fasteners.
- V. Production sheets of the stator and rotor. It occurs with the use of special steel press, namely electrical roll. Various devices for supplying material to the press used to increase security.
- VI. Processing sheets rotor. They pressed and covered with aluminum salt-glaze.



- VII. stator sheet processing. It includes pressure and stapling.
- VIII. Insulation. Produced sheet materials.
- IX. Winding. In the production of electric motors produced as special equipment, as well as manually.
- X. Test cores. A necessary measure before the impregnation procedure.

- XI. Machining components, in the manufacture of electric motors. A similar process is carried out on hardware machines and CNC equipment.
- XII. Assembling the rotor and processing. It carried out on the universal machine tools.
- XIII. Balancing of the rotor.
- XIV. Assembly.
- XV. Test.

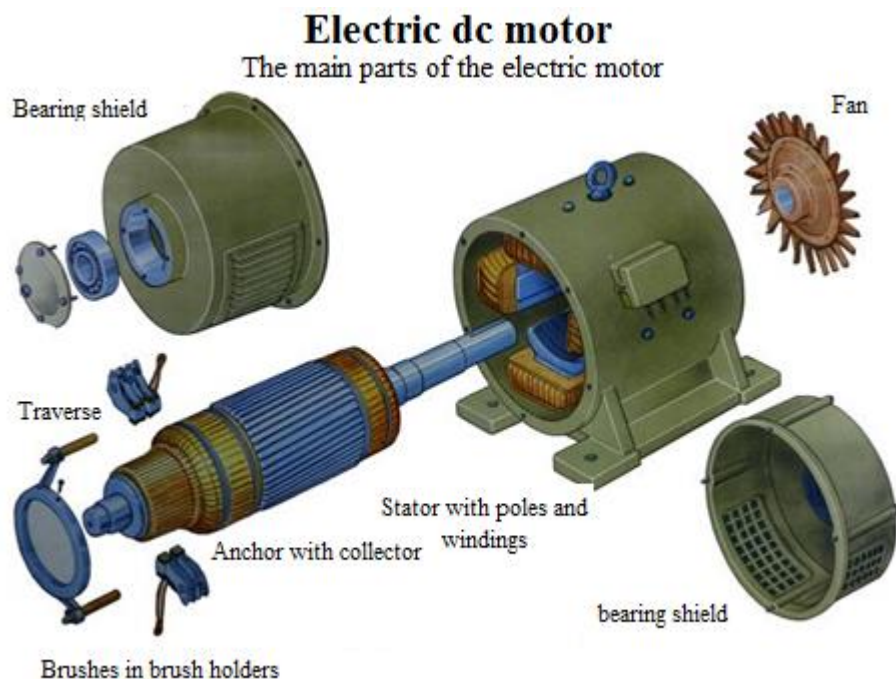
Applications bit motors in the art.

The household appliances are mainly used AC motors of two types:

- Commutator (electric shaver, the sewing machine, vacuum cleaner, universal kitchen machine, electric drill, etc.).
- Asynchronous (washing machine, refrigerator).

The collector is a universal motor. It can operate on DC and AC current. engine operation is based on the interaction of the conductor (armature) with electric current and the magnetic field produced by the electromagnet (inducer). The mechanical force generated in this reaction causes the rotating armature (rotor). The direction of movement of the conductor with a current determined by the left-hand rule. An electric motor with a rotating shaft was first constructed in 1834 by the Russian physicist BS Jacobi (1801-1874).

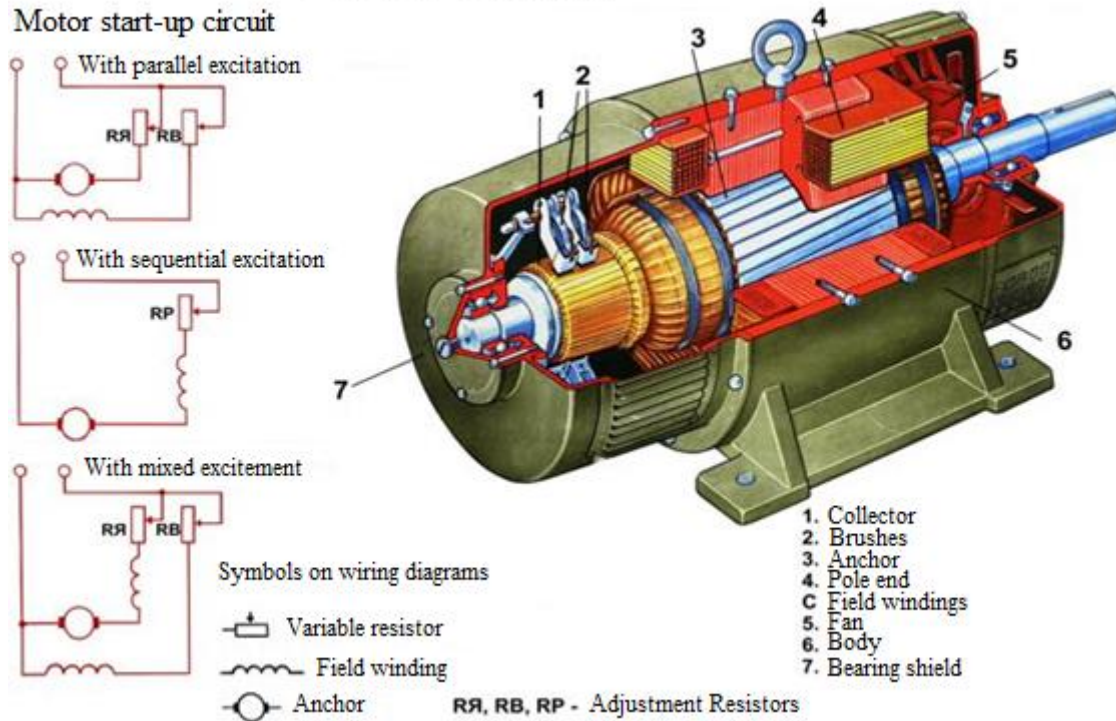
Commutator motor apparatus.



The frame and core engine AC electromagnet formed from electrical steel sheets in order to reduce energy losses for heating the core. In a DC motor, these parts generally make solid. The excitation

winding of the electromagnet in AC motor in series with the armature winding. With this connection, the whole armature current passes through the excitation winding, providing a high starting torque of the motor.

Electric dc motor



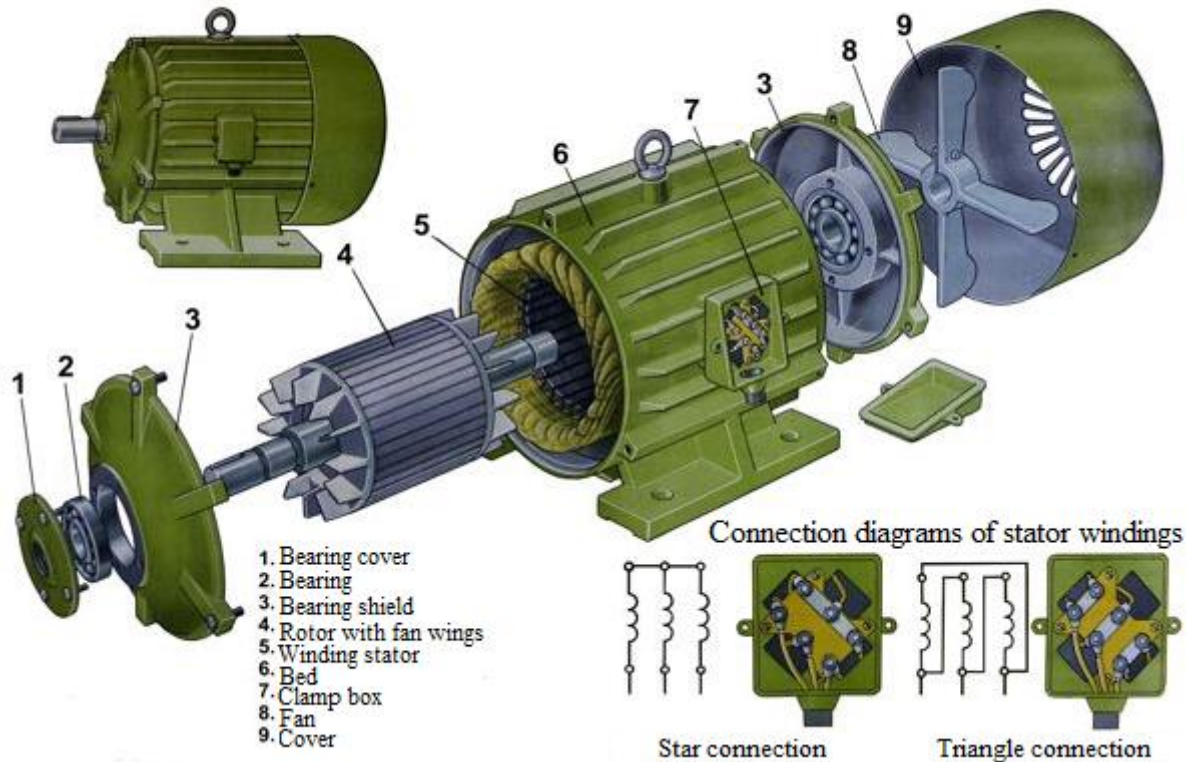
The induction motor has no brushes and collector, therefore, it does not cause sparks.

The operating principle of the induction motor is based on the interaction of rotating magnetic fields with currents that are induced by this field in the squirrel-cage rotor conductors. According to Lenz's law in the conductor current is induced such a direction that its magnetic field prevents the reason it creates, and inhibits the rotating magnetic field. Since the rotor is fastened in the bearings, it is set in motion in the rotating field direction. Rotor speed does not coincide with the stator magnetic field rotational speed, so that such engines are called asynchronous. Lagging rotor rotating relative to the stator magnetic field is called slip. It is 3-6%.

When the magnetic field rotational speed 3000 rev / min with a rotor rotating speed of 2800 rev / min. If the motor stator windings laid six (two pole pairs), the stator field rotates at a speed of 1500 rev / min, and the rotor - at a speed of 1400 rev / min.

Asynchronous motor disassembled.

Three-phase asynchronous motor



Structurally asynchronous motor, like any electric machine consists of two main parts: a fixed part - the stator and the rotating part - the rotor. The stator has three windings, arranged on the ring core and shifted in space by 120° , and the rotor has windings as many short-circuited turns laid on the cylindrical core. Rotor winding coreless like a squirrel cage and short-called closed or squirrel cage winding. It represents the rods are closed at the ends of rings.

Induction motors are simple in device reliability. They are used in all sectors of the economy. Of the total number of electric motors, which are produced by plants, asynchronous motors are about 95%.

The disadvantages of these engines are: 1) the inability to obtain a constant and precise number of revolutions to the shaft; 2) at start-up are a large current; 3) sensitive to fluctuations in voltage.

Apartment is a single-phase wiring. Therefore, to use a three-phase induction motor in the home to be connected further capacitors. The right shows the inclusion of a three-phase motor in the single-phase network.

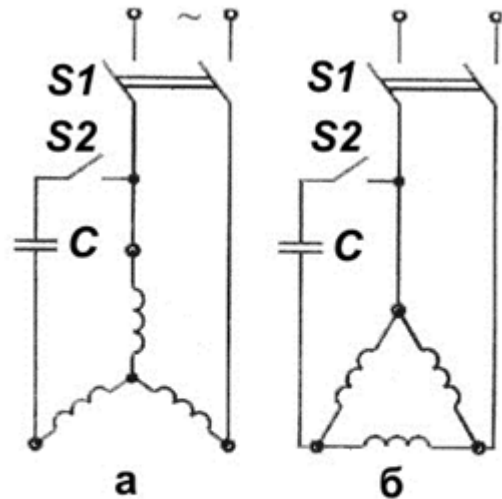
A disadvantage of this method of connection of three phase motors in a single phase network is to use expensive paper large capacitors. Thus, for each 100 watts of power needed mF capacitor 10, designed for the voltage of 250-450 V.

Along with the three-phase asynchronous motors, single-phase asynchronous motors are used. These motors have two windings on the stator: working and launcher. The windings are arranged at an angle of 90° relative to each other. When the rotating magnetic field is formed and the cage rotor comes to rotate as well as in three-phase asynchronous motor windings in the network. Thus there is a rotor and a sliding pad winding may be disabled by an induction switch or special relay.

Electric motors have great advantages compared with other types of engines (steam, combustion), they are environmentally friendly during operation does not emit harmful gases, smoke, or steam; economical

- no need supply of fuel and water for them; they are easy to install in any accessible place (on a wall, under a floor tram, trolley, in the case toys, and so on. d.).

For the needs of the national economy industry produces a wide variety of motors from miniature, such as toys and models, to the engine of enormous size - for ships, locomotives. Electric motors differ not only in size, but also the purpose, structure, rotor speed. On the electrical company engaged in the manufacture of electric workers of different professions. Winding coils of the stator and the rotor, the connection parts thereof is carried out electricians-wrappers. Collect electric fitters. They need to be skilled in performing not only electrical but also mechanical works.



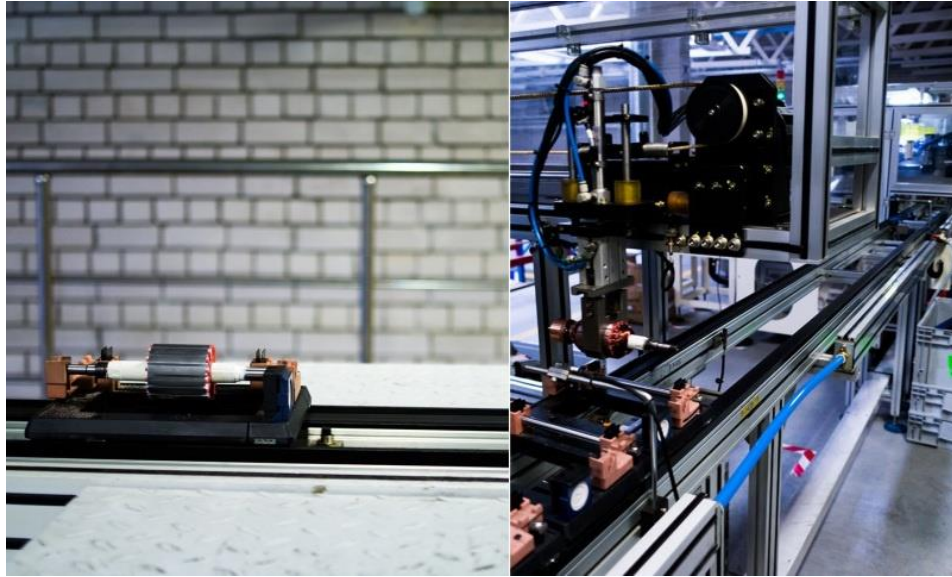
Schemes for incorporating a three-phase asynchronous motor into a single-phase network: a - when connected by a star; b - when connected by a triangle

Production of Rotor

Production line turns into a complete rotor preform. This robotic conveyor on which operations are performed ten. Most of all, the plot is similar to the factory inside the factory where dozens of machines operating in a single coherent set with minimum human involvement: in the reception area is placed workpiece, and after a while here you can take the finished rotor.

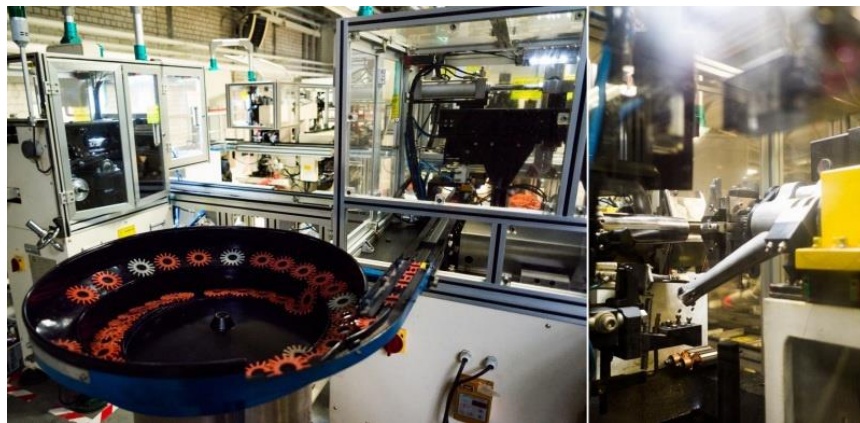


Workpiece move on a conveyor belt in special pallets. Before performing the technological operations manipulator removes the workpiece from the pallet, puts it into the unit, and then returns the item back to the pallet. The workpiece is moved to the next installation.

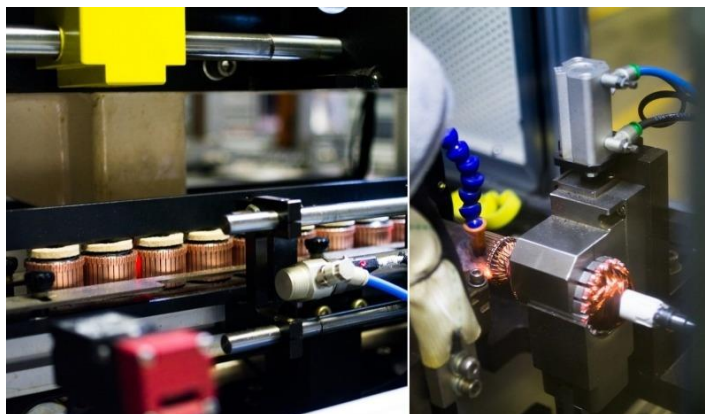


Consider some operations more closely. For reference: in this material are not arranged in chronological order.

Left - hopper insulating washers are installed among the first downstream conveyor. Right - the setting for the rotor winding.



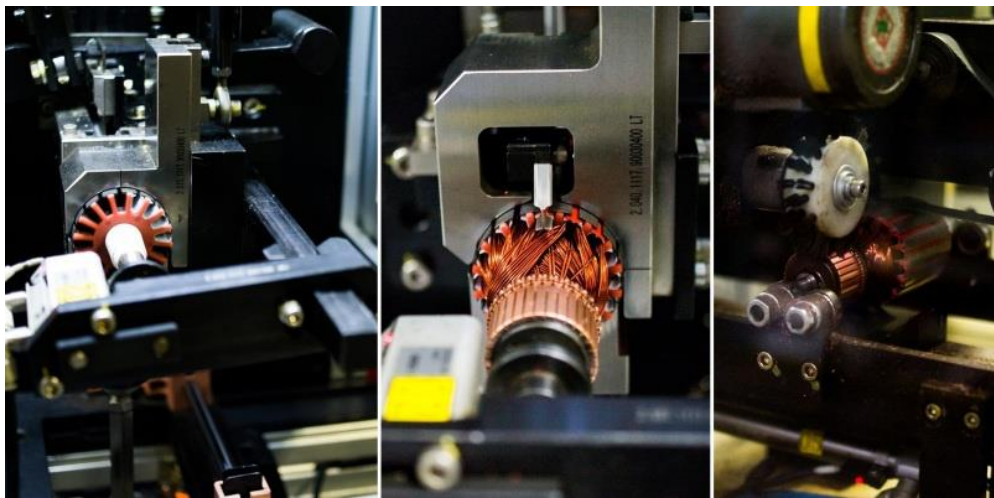
At this stage, the setting operation of the collectors to their connection to the wire winding slats (right). To cool the soldering places uses compressed air introduced by the blue corrugated tube.



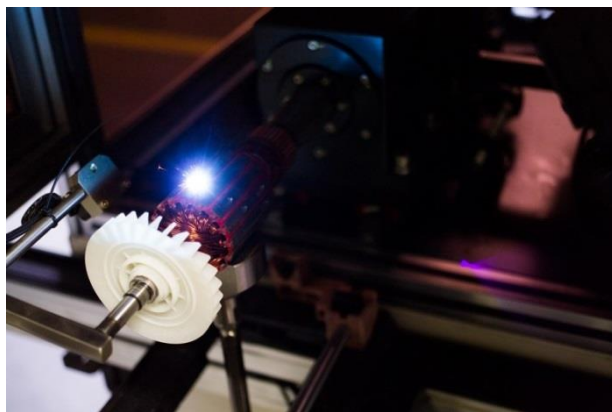
Another operation - setting the fan, which is pressed onto the corresponding neck of the rotor shaft.



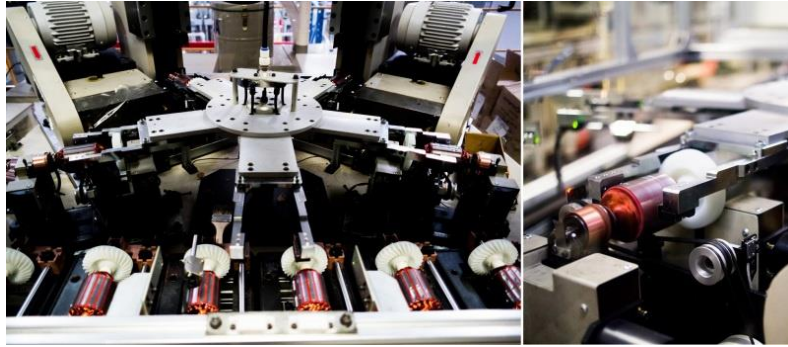
These units are responsible for the isolation of the rotor pack, wedge assembly and stripping lamella collector.



In one of the chambers there is a laser mark, the glass viewing window tinted to protect the view of the operator.



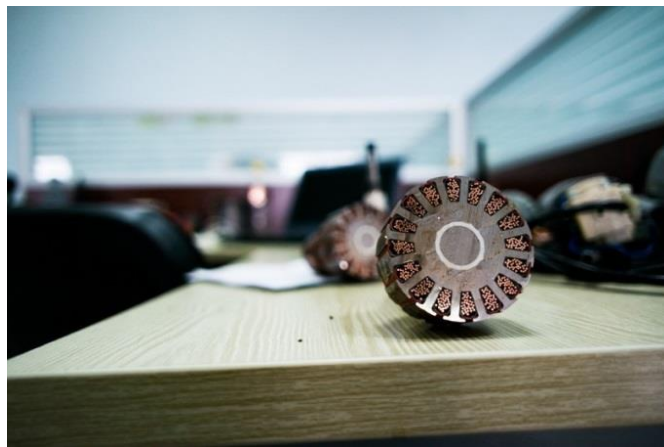
There is an automatic balancing rotor.



Trickle impregnation varnish - a rather messy process, a separate area should be allocated for it in the factory. The receiving chamber loading parts (pictured left), the further procedure is automated (photo on the right - from the working zone setting).

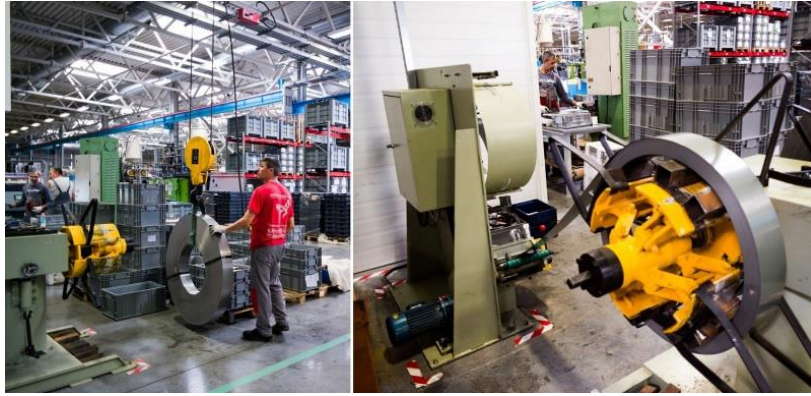


Ready rotors come from stock and from there - to the assembly.



Production of Stator

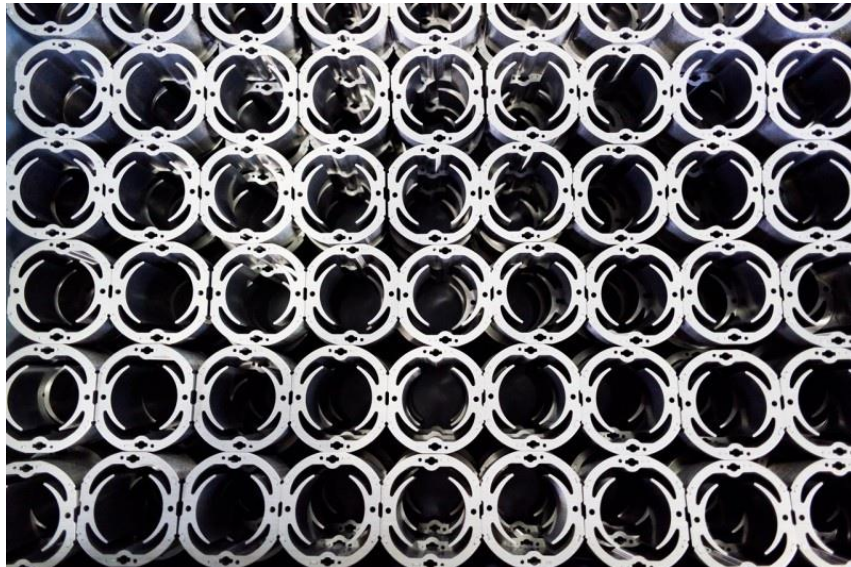
As the rotor of the electric motor stator begins with its foundation - typesetting package metal plates. By the way, the armature and stator packages are made in a single step on a highly accurate high-speed press, where the sheet metal is fed from the bobbins.



The photo - a work area of the high-speed (up to 300 beats per minute) press: as a result of the operator is a complete package of the stator plates, which can only compress.



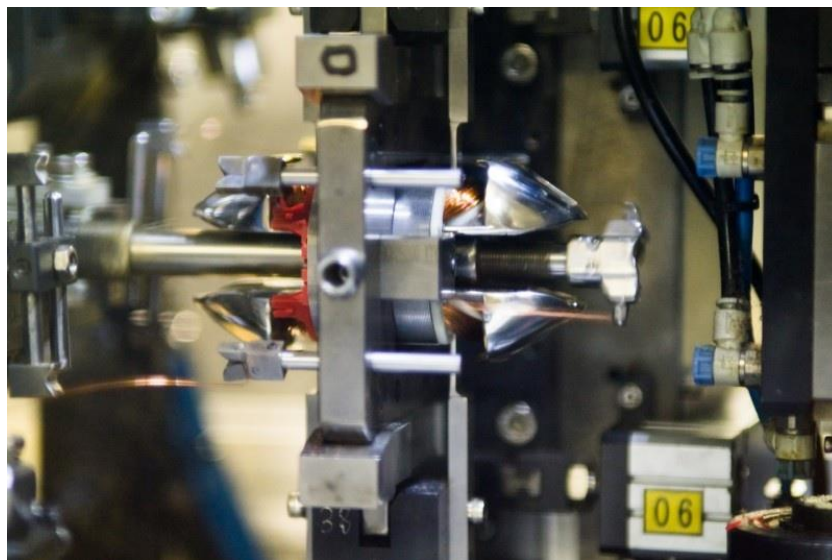
Stator package for further assembly is ready!



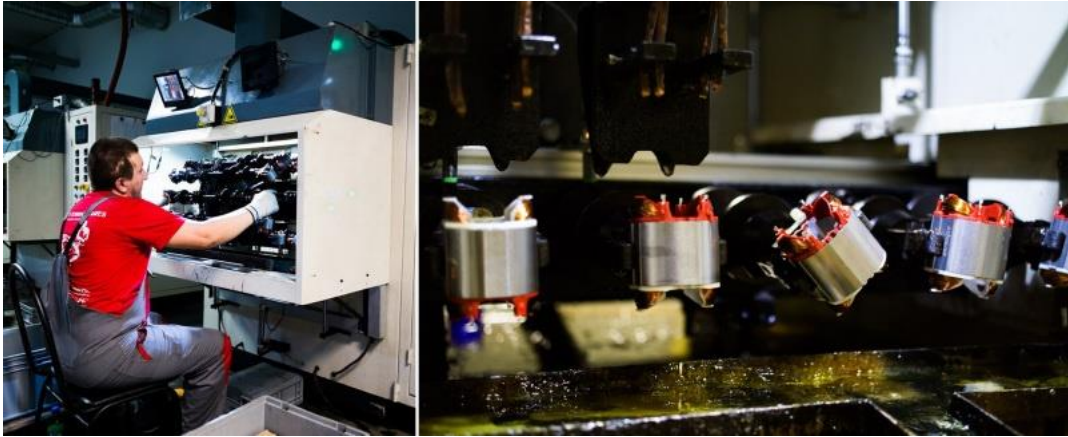
The part is sent to the robotic assembly line, where the build and the stator winding. The line is automated, the operator only needs to download the components and remove the finished part of the motor.



One of the key processes - winding enamel wires. The manipulator picks up the item from the conveyor and moves it into one of the automated line stations. Winder reciprocating motion, and its head is rotated around an axis, wherein all occurs at a very high speed. After the operation arm returns the item on the conveyor to be sent to the next station.



Collected stators are impregnated with varnish on the treater. Their loading and unloading are carried out manually by the operator, and the rest is automatic: the details are scrolled and soaked with lacquer drip method.



In fact, only two operations are performed manually in the production of the stator. First - crimp lead wires: Connect them manually, after which the stator is heat-treated for insulation shrinkage.



The second - the windings book. The operator connects the stator leads to a setting that puts the item into the bath and energizes. As a result, the winding is heated to 50-70 degrees Celsius, and under the influence of temperature thereon sintering banding powder coating. The excess powder on the yoke easily blown away by compressed air.

▪ **Main production equipment**

- Equipment for assembling and welding of stators.
- Machines for the assembly welding of rotors.
- Equipment for insulation of the stator slots.
- The equipment responsible for winding the stator coils.
- Machines providing the winding unit in the stator grooves.
- Equipment for the Spreading of the stator winding.
- Equipment providing the stator winding forming shop.
- Machines for the shroud of the stator winding.
- Treatment equipment and drying the stator winding.
- Equipment for pressing the stator and rotor.

equipment identification	Country of origin	The average price per unit of \$ US equipment
Equipment hydraulic crimping	China	80 000,00
	Countries of Europe	84 000,00
	Russia and CIS countries	81 000,00
Automatic stator assembly line	China	100 000,00
	Countries of Europe	125 000,00
	Russia and CIS countries	100 000,00
Automatic rotor assembly line	China	100 000,00
	Countries of Europe	125 000,00
	Russia and CIS countries	100 000,00

The required amount of equipment will be known when creating the detailed budget documentation and analysis of the planned production of a group of manufacturing engineers and specialists.

7.4. Manufacturers and suppliers of equipment

LLC "Engineering Center" Vindek "



Machines and equipment for manufacture of electric motors

A country: the Russian Federation

City: Podolsk

Region: Moscow region, a / I 122

Website:

www.windeq.ru

Phone:

7 (495) 543-72-60

JSC "snap"



Machines and equipment for manufacture of electric motors

A country: Ukraine

City: Novovolynsk

Region: Volyn region,
Str. Lutsk, 25

Phone:

(03344) 3-06-60

email:

markos@osnastka-market.com.ua

Ltd. "UZSTANEX"



Metal cutting machines, press-forging equipment

A country: Uzbekistan

City: Tashkent

Area: Yashnabadsky
Str. Aviasozlar, d. 9, office 1.

Phone:

998 (71) 296 13 66

998 (90) 990 13 65

998 (90) 995 13 65

email:

info@uzstanex.uz

Yamazaki Mazak Corporation



Machining centers, laser cutting machines, CNC turning centers, and others.

A country: Japan

1-131 Takeda, Oguchi-cho, Niwa-gun, Aichi-Prefecture.

country code: +998

Phone:

(71) 2336772

(90) 9970111

Website:

www.mazak.com

Sandvik Coromant



A country: Sweden

City: Sandviken

Website:

www.sandvik.coromant.com

Metal cutting tools

CJSC "Atlant"



A country: Republic of Belarus

City: Baranovichi

Str. Nakonechnikova 50

Phone:

375 163 486-086
(Marketing Department - Hardware)

email:

info@bsz.by

Equipment for electromechanical industry

EMA F.lli Gualtieri



A country: Italy

Via C. Treves, 47 - PO BOX №1 - 20090 Trezzano sul Naviglio (MI)

Phone:

39 02 48401746

email:

sales@ema-gualtieri.it

Filament winding machines, machinery and equipment for the electromechanical industry

7.5. Construction

The normal functioning of plants is determined by the creation of rational management of the shop, ensuring the work of the process equipment, systems and services, and comfortable working conditions for staff.

The normal functioning of plants is determined by the creation of rational management of the shop, ensuring the work of the process equipment, systems and services, and comfortable working conditions for the staff formulate the basic requirements for the guild economy

Building basic industrial purposes intended to cover the equipment to perform the basic technological and auxiliary processes and staff in most cases, the building is a supporting structure for mounting intrashop Conveyor mechanisms and energy communications

Volume planning solutions building workshops are subject to the scheme of technological process (taking into account the possible expansion and perspectives are agreed), which will provide an assortment quality and output at the same time takes into account the conditions of the organization of construction and possible unification of constructions Rational exchange planning solutions building workshops are characterized by compact design with maximum use of production space and lockable rooms . optimal from the point of view of construction workers and the placement on the general plan configuration management, unification of constructive elements These solutions provide the same parallel arrangement of spans, the same type of grid columns and the same height Retreats are suitable in the case of production requirements relating to the organization of rational freight traffic,

As a rule, placed in shops multidisciplinary buildings with wide spans columns on the axes 12, 18, 24, 30, 36 and 42m (sometimes 15, 21, 27, 33 and 39 m). Selecting spans the width of the production depends on the type and configuration of the installed equipment. In buildings, manufacturing plants may provide support spans of the same or smaller width, in particular -. A pitch multiple of 3 m They arranged ventilation and electrical heating furnaces smoke extraction equipment, maintenance services, office, sometimes domestic premises. In the absence of sufficient production areas or if there is a high ground water level, or individual spans all building management operate with so-called technical floor, wherein disposed communication electrical facilities, ventilation systems,

Column spacing in the building of workshops depending on the requirements of the process varies from 6 to 36 m usually at the rows of buildings column spacing of 12 m, which is associated with a more convenient fastening enclosing wall structures of the building, and in some cases -. 6, 18 and 24 m; rows of columns on the inner step is from 12 to 36 m.

For production plants most often construct buildings with columns resting on the electric bridge cranes, load capacity is determined by the weight of the transported goods and a replacement of the equipment used during repairs. The use Ros buildings small plants that produce, for example, thin-walled pipes with small diameters. In such shops are widely used outdoor mechanized and manual transport. Promising the construction of separate spans Ros, mainly non-technological purpose, with the service installed in their outdoor machinery equipment such as mobile cranes

The height of the plants was determined taking into account the building with a secure service set hoisting means of technological equipment, transportation of metal equipment, facilities, metal stacks in warehouses intermediate and finished goods sides of the rolling stock. The total height of the building determined by the height setting intrashop electric bridge cranes, cranes clearance (height) and the height of the roof structure.

Frameworks shops buildings made of metal, concrete and mixed structures. building elements (columns, beams, trusses, floors) must withstand a load of technology and vehicles. Depth of the foundations and pillars of the building configuration depends on the design calculations, taking into account the load on the building and the characteristics of the soil, and on the depth of the underground facilities, located near the columns as in the shop, and beyond.

The floors in shops are made of materials well resisting mechanical stress, and heat impact and corrosive media. Flooring should be easily maintainable, quickly replaceable and easy to clean. Load floors may range from 30 and 250 kN / m². Usually the floors in the main spans are made of concrete

slabs with a frame Plot iron or steel plates. Floors can be Asphalt concrete (in areas not exposed to temperature extremes), adobe, brick, stoneware paving (the areas of heating furnace, a metal warehouses). The bus electrode premises basement oil, smoker's hydraulics etc. arrange flooring tiles, flooring and plastic coated.

All buildings design workshop using as the main production of artificial lighting, in addition to natural through the glazed window openings in the walls, as well as add-ons to the lamp on the roof.

8. Organization of production and overhead costs

8.1. The organizational structure of the enterprise

Management of all business activities will be carried out in areas Director:

- Economics and finance;
- Management of the current industrial, economic and financial activities of the Company;
- Supply, marketing and sale of products;
- Social development;
- Ensuring the safety of property and security work.

8.2. Overhead costs (works general and administrative)

Overhead at full capacity consists of the following major items of expenditure:

- Wages of workers;
- Taxes and other charges that are not directly included in the cost;
- The cost of routine maintenance and repair of equipment;
- Labor costs, etc.

9. Workforce

9.1. The need for a labor force

The project will be implemented by means of attracting qualified personnel - both desktop and engineering.

State employees will be 264 people.

The number of manufacturing personnel determined taking into account the mode of operation of the equipment, the level of mechanization, automation and others.

State employees represented in the table.

	Workplaces	Average monthly \$ US	The total monthly \$ US	TOTAL
PRODUCTION				
Administrative maintenance department	5.0	158	789	9474
warehouse workers	10.0	179	1789	21474
the driver of the electric vehicle	4.0	200	800	9600
Technical Control Department	10.0	189	1895	22737
assembly line workers	173.0	168	29137	349642
Engineering group	4.0	184	737	8842
laboratory workers	10.0	184	1842	22105
Shop for metal working	9.0	168	1516	18189
paint shop	8.0	168	1347	16168
Logistics	7.0	189	1326	15916
Total:	240		41179	494147
Total production staff	240		41179	
social insurance payment (12% of the payroll, but not less than 65% * 1 minimum wage)		12%	4941	
Total with CAP:			46120	
ADMINISTRATIVE STAFF				
Office and administration	17	368	6263	75158
the department	7	295	2063	24758
Total:	24		8326	99916
Total administrative staff	24		8326	
social insurance payment (12% of the payroll, but not less than 65% * 1 minimum wage)		12%	999	
Total with CAP:			9325	
TOTAL	264		55446	

9.2. To the staff requirements, the need for and the organization of their education

To work on the enterprise will be attracted qualified staff.

To comply with the working conditions at the workplace created by the requirements of safety and sanitation is necessary to make the certification.

Work and rest is set in accordance with the law, collective agreement or employment contract.

Workers will use special clothing, shoes and other necessary facilities, Washing and neutralizing agents in accordance with the established norms.

Production personnel will have specific technical knowledge. An indispensable condition for the existence of the qualification will be in employment. If necessary, training will be conducted at the enterprise.

10. Driving the project

10.1. Project implementation stage

Schedule cyclic organization of industrial activity for 3 years	With the division by year												
	1 YEAR				2 YEAR				3 YEAR				
Marketing research													
Preparation of all package of documents required for production													
Development of Business Plan													
Construction works													
Pre-certification													
Organization of the production site													
Purchase of raw materials and equipment													
Delivery of raw materials and equipment													
Connecting to external networks and communications													
Laying and connection to utility networks													
Experimental-industrial run													
recruitment													
Training													
Ensuring the production process													
Market research and consideration of industrial distribution problems													
Start of production of electric motors of different capacities													

11. Financial evaluation

11.1. A set of capital project expenditures

Financing of the project is planned to carry out at the expense of investment funds in foreign currency.

The total project cost is \$ US 25 627 732.

NAME	Formed EQUITY	INVESTMENT formed SEREDSTVA	TOTAL
	IN FOREIGN CURRENCY	IN FOREIGN CURRENCY	IN FOREIGN CURRENCY
	\$ US	\$ US	\$ US
FIXED ASSETS			
Purchase			
Buildings	-	3000000	3000000
Power Machines and Equipment	-	58947	58947
Working machinery and equipment	-	16000000	16000000
Furniture	-	44000	44000
computers	-	24200	24200
transportation	-	800000	800000
Other fixed assets	-	300000	300000
Registration, the formation of the authorized capital, paperwork	-	10030	10030
Project work	-	7716	7716
Acquisition of land	-	104211	104211
Preparation of utilities (power, gas, water and sewage), landscaping and outdoor lighting.	-	14062	14062
Installation works, creation of utility systems	-	1041609	1041609
Installation technology training work on it	-	617249	617249
Obtaining necessary permits	-	96445	96445
The organization of the advertising company	-	17368	17368
Total:	-	22135837	22135837
INITIAL WORKING CAPITAL			
Initial working capital (raw materials and material costs for the organization of production at 100% load, 1 month)	-	3132580	3132580
Total:	-	3132580	3132580
FINANCIAL COSTS			
The costs of customs procedures (on the basis of the loan amount)	-	84 294.74	84295
Transportation costs (calculated on the loan amount)	-	252 884.21	252884
Pre-project costs	-	22 135.84	22136
Total:	-	359315	359315
TOTAL COST OF THE PROJECT	-	25627732	25627732

Major capital costs for the project are:

- ✓ Buildings

- ✓ Power Machines and Equipment
- ✓ Working machinery and equipment
- ✓ Furniture
- ✓ computers
- ✓ Transportation
- ✓ Other fixed assets
- ✓ Registration, the formation of the authorized capital, paperwork
- ✓ project work
- ✓ Acquisition of land
- ✓ Preparation of utilities (power, gas, water and sewage), landscaping and outdoor lighting.
- ✓ Installation works, creation of utility systems
- ✓ Installation technology training work on it
- ✓ Obtaining necessary permits
- ✓ The organization of the advertising company

For the organization of the plant for production of electric motors of different capacities necessary administrative and domestic buildings, as well as the construction of fences and barriers, warehouses, sheds for storage of materials needed for the production and the necessary equipment, as well as protection from the rain. The total value of the buildings, constructions and structures is according to preliminary estimates 3 million \$ US.

The main equipment for the production of electric motors of different capacities, the maximum production capacity of 4529 pieces 286 000 in year. The cost of the complex is 16 million \$ US.

Power Machines and equipment include transformer substation and a generator for uninterrupted power supply. Planned to purchase six transformer substations and two each to reduce the risk by disabling or failure of one of them. The generator will provide an alternative source of electricity in the absence of supply from the main thoroughfares. The cost of the transformers and the substation is 58 947 \$ US.

Furniture and computer equipment necessary for setting up the administrative facilities for bookkeeping and other administrative staff. A set of furniture and computer equipment is 68 200 \$ US.

For the transportation of finished products, as well as the delivery of the necessary raw materials for the production of needed vehicles (cars, trucks, loaders). The total cost of road transport is 800 000 \$ US.

The financial costs of the project will include the initial costs for the organization of activities such as: Pre-project development costs of market research and business plan, registration of vehicles, the costs of customs procedures, as well as certification of the planned production of goods.

Not unimportant is to provide the plant with raw materials and materials necessary for the smooth production. The project provides an initial working capital, including the commodity and material costs for the organization of production and services at 100% load, at 1 month. The costs of the initial working capital is \$ US 3 132 580.

Based on data from the total cost of the project mentioned above is **25 627 732 \$ US.**

11.2. Total costs for products sold

To determine the future viability of the project are important realistic forecasts of production costs. Production costs should be calculated as the total annual costs of products sold, as well as the specific costs per unit of output.

For the analysis and study of the planned production program and break-even analysis is necessary to determine the main cost items directly related to each individual type of product.

When assessing the cost of production at the plant, a project should take into account industry guidelines for planning, accounting and determination of the cost of products, works and services.

Material costs include raw materials, basic and auxiliary production materials and spare parts. Costs of production personnel include fixed and variable costs depending on the types of work and cost elements. The costs of wages and social security of employees directly involved in the production (variable costs) are recognized as material costs, pay and social security personnel associated with the production as a whole (fixed costs) relate to overhead cost.

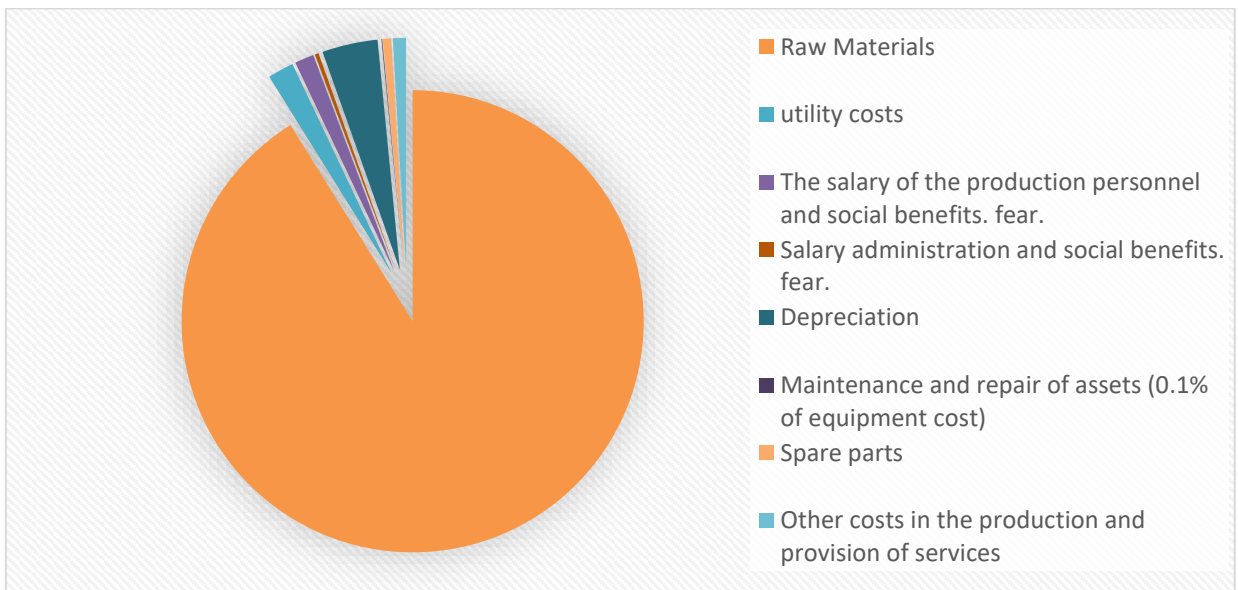
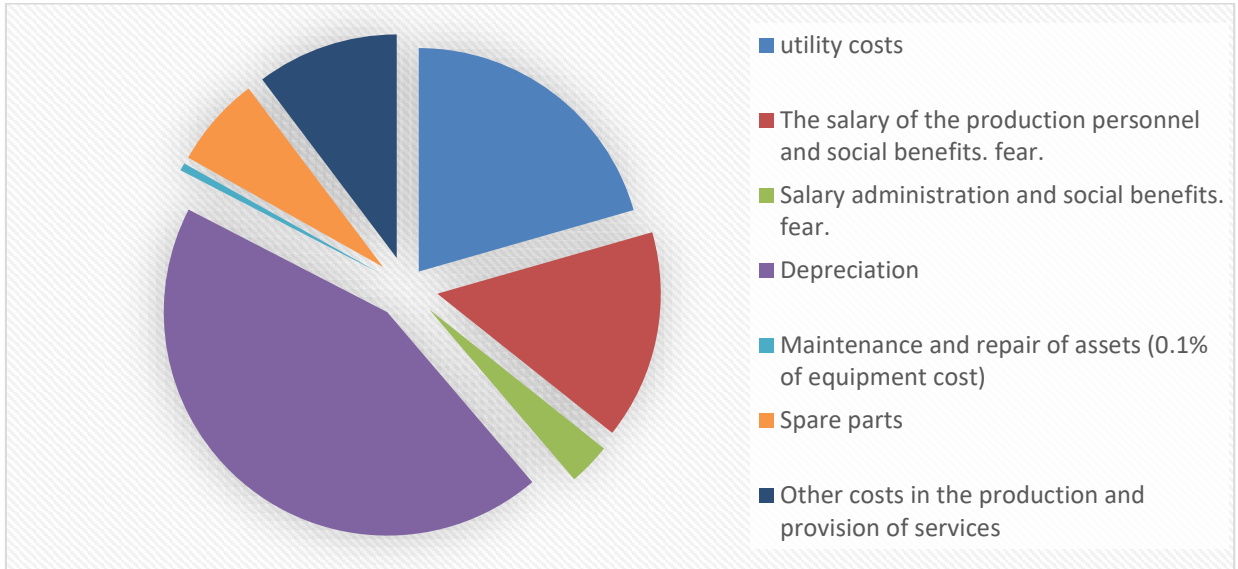
Overhead costs other than fixed costs for staff costs take into account the costs of raw materials, operating costs, technology costs, as well as costs related to the site and on the environmental measures and other costs (indirect costs).

Total economic costs accounted for in accordance with the procedure and checklist adopted in the industry and tax authorities.

The table below shows the cost of the production and provision of services:

Name	Total costs per year	The share of fixed costs	The proportion of variable costs	fixed costs	variable costs
	\$ US	in total costs (%)	in total costs (%)	\$ US	\$ US
Raw Materials	37590961	0%	100%	0	37590961
including:					
<i>Motor over 0.03 to 0.18 kW</i>	7233628	0%	100%	0	7233628
<i>Motor over 0.18 to 0.6 kW</i>	21414484	0%	100%	0	21414484
<i>The electric motor of more than 5.5 to 10 kW</i>	556861	0%	100%	0	556861
<i>The motor over 10 to 15 kW</i>	748380	0%	100%	0	748380
<i>The motor over 75 to 100 kW</i>	2250730	0%	100%	0	2250730
<i>The electric motor of 100 to 125 kW</i>	1225544	0%	100%	0	1225544
<i>Motor more than 250 to 320 kW</i>	4161334	0%	100%	0	4161334
The salary of the production personnel and social benefits. fear.	553445	0%	100%	0	553445
Salary administration and social benefits. fear.	111906	100%	0%	111906	0
The cost of creating working conditions (5%)	33268	100%	0%	33268	0
utility costs	752201	0%	100%	0	752201
Depreciation	1603177	100%	0%	1603177	0
Maintenance and repair of assets (0.1% of equipment cost)	20227	0%	100%	0	20227
Spare parts	240884	0%	100%	0	240884
Other costs in the production and provision of services	375910	0%	100%	0	375910
TOTAL	41281978			1748351	39533628

Based on this graph and table shows that, excluding raw material costs and the main item of expenditure (40%) is the depreciation of production equipment, buildings and structures. The high amount of depreciation due to the high cost of production equipment.



When considering the total cost of the basic shop costs are raw materials, accounting for 91.6% of total expenditures, or \$ US 37 590 961.

11.3. Estimation of economic efficiency, taking into account the payback

Net present value - the sum of the discounted cash flow value of the project, cast to the present day.

The indicator represents the difference between all cash inflows and outflows, given the current point in time (the time of the investment project evaluation).

It shows the amount of cash that the investor expects to receive from the project, after the cash inflows will pay for the initial investment costs and recurrent cash outflows associated with the project.

IRR (English internal rate of return, standard abbreviations -. IRR (GNI)) - is the interest rate at which the net present value (net present value - the NPV) is equal to 0. NPV is calculated based on cash flow, discounted to the present day.

Period	cash flow	The discount rate	NPV	GNI
0 year	(25627732)	20,0%		
1 year	1448672	20,0%	(24420505)	-94%
2 year	5646559	20,0%	(20499284)	-50%
3 year	7988691	20,0%	(15876199)	-19%
4 year	10775317	20,0%	(10679769)	0%
5 year	16629002	20,0%	(3,996,946)	14%
6 year	22981024	20,0%	3699352	24%
7 year	27199878	20,0%	11290339	30%

Calculation payback at a discount rate of 20% indicates a positive result to the second year, with NPV of \$ US 3 699 352 and IRR 24%.

Profitability index(English PI, DPI, Present value index, Profitability Index, benefit cost ratio.) - investment performance, which is the ratio of income to the discounted amount of investment capital. Other synonyms yield index, which carry the same economic sense: the index of profitability and profitability index.

calculation of ID (PI / yield index)				
Period	initial costs	cash income	cash flow	Cash flow
0 year	\$ 25,627,732	\$ -	\$ -	\$ -
1 year	\$ -	\$ 11,885,871	\$ 10,437,199	\$ 1,448,672
2 year	\$ -	\$ 18,795,256	\$ 13,148,697	\$ 5,646,559
3 year	\$ -	\$ 26,410,694	\$ 18,422,004	\$ 7,988,691
4 year	\$ -	\$ 34,794,092	\$ 24,018,776	\$ 10,775,317
5 year	\$ -	\$ 51,341,436	\$ 34,712,434	\$ 16,629,002
6 year	\$ -	\$ 69,573,959	\$ 46,592,935	\$ 22,981,024
7 year	\$ -	\$ 81,473,988	\$ 54,274,110	\$ 27,199,878
			NPV (NPV)	\$ 25,859,238
			ID (PI)	101%

The payback period of the investment project (Payback Period, PP)- it is the ratio of the initial investment in the project to the average profitability of the project. If several investors, each calculates the payback period and its investments in the investment project, and the ratio of its investment in the project to its average annual income in this project.

BUSINESS PLAN

Calculation of the payback period of the project			(PP / payback time)	
Period	initial costs	cash income	Cash flow	Cash flow from an accrual basis
0 year	\$ 25,627,732	\$ -	\$ -	\$ -
1 year	\$ -	\$ -	\$ 1,448,672	\$ 1,448,672
2 year	\$ -	\$ -	\$ 5,646,559	\$ 7,095,231
3 year	\$ -	\$ -	\$ 7,988,691	\$ 15,083,922
4 year	\$ -	\$ -	\$ 10,775,317	\$ 25,859,238
5 year	\$ -	\$ -	\$ 16,629,002	\$ 42,488,241
6 year	\$ -	\$ -	\$ 22,981,024	\$ 65,469,265
7 year	\$ -	\$ -	\$ 27,199,878	\$ 92,669,143
			(PP / payback time)	4th YEAR

Discounted payback period - payback period in the present value.

Discounted payback period				(DPP / payback period based discount)
Period	initial costs	Cash flow	Discounted Cash Flow	Discounted cash flows on an accrual basis
0 year	\$ -	\$ -	\$ -	\$ -
1 year	\$ -	\$ 1,448,672	\$ 1,207,227	\$ 1,207,227
2 year	\$ -	\$ 5,646,559	\$ 4,705,466	\$ 5,912,692
3 year	\$ -	\$ 7,988,691	\$ 6,657,242	\$ 12,569,935
4 year	\$ -	\$ 10,775,317	\$ 8,979,431	\$ 21,549,365
5 year	\$ -	\$ 16,629,002	\$ 13,857,502	\$ 35,406,867
6 year	\$ -	\$ 22,981,024	\$ 19,150,854	\$ 54,557,721
7 year	\$ -	\$ 27,199,878	\$ 22,666,565	\$ 77,224,286
			(DPP / payback period based discount)	4th YEAR

ROI (return on investment) - This ROI. It allows you to calculate the efficiency of investment companies. The article describe in more detail what the ROI, as it is considered, we present the formulas and examples of calculation.

The calculation of the profitability of the investment project (ARR, ROI / profitability factor)				
Period	initial costs	cash income	Cash flow	The average net profit in 7 years
0 year	\$ 25,627,732	\$ -	\$ -	\$ -
1 year	\$ -	\$ -	\$ 1,448,672	\$ -
2 year	\$ -	\$ -	\$ 5,646,559	\$ -
3 year	\$ -	\$ -	\$ 7,988,691	\$ -
4 year	\$ -	\$ -	\$ 10,775,317	\$ -
5 year	\$ -	\$ -	\$ 16,629,002	\$ -
6 year	\$ -	\$ -	\$ 22,981,024	\$ -
7 year	\$ -	\$ -	\$ 27,199,878	\$ -
in total			\$ 92,669,143	\$ 6,464,810
			(DPP / payback period based discount)	25%

Based on the payback figures, we can judge the profitability and viability of the project.

Short payback period and high coefficients are caused not by high costs for the organization of the project, as well as the low cost of the required production of raw materials, a small amount of full-time employees and moderate demand for this type of products.

11.4. Assessing the impact of the financial results of the country's economy

Act of 12/24/2018, the № LRU-508 in tax code amended and changed. Resolution of the President of 12.26.2018, № PP-4086 approved tax rates for 2019, as well as the procedure for taxation of certain categories of taxpayers. In this case, the main change is the payment of taxes, depending on the volume of sales.

In 2019 VAT payers will become an enterprise with an annual turnover of more than 1 billion soums.

The income tax rate for the majority of legal entities decreased in 2019:

- ✓ for other legal persons (with some exceptions) - from 14 to 12%.

Based on the information above, we can safely say that according to preliminary calculations tax payments throughout the life of the project will amount to more than \$ US 29.9 million.

Totals for PROJECT COSTS In monetary terms,								
\$ US	By year							
	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	7 YEAR	Total:
the payment of taxes to the state budget	1111040	1738128	2542029	3446868	5232586	7242477	8617432	29930560

11.5. Amortization of non-current assets

Amortization of non-current assets

Changes made to the January 1, 2019 on income tax from legal entities - revised marginal rate of depreciation of fixed assets subject to amortization for tax purposes specified in Article 144 of the Tax Code and some groups of fixed assets reduced depreciation rates, depending on the period of use. Namely, the annual depreciation rate:

- on buildings and buildings reduced from 5% to 3%;
- Structures for left unchanged at 5%;
- transfer devices for lowered from 8% to 5%;
- for power machines and equipment have been reduced from 8% to 5%;
- on working machines and equipment by activity (except backhaul) reduced from 15% to 8%;
- by cell transport (rail, sea and air) are reduced from 8% to 4%.

Amortization and depreciation for tax purposes for each subgroup is calculated by applying the depreciation rate, but not higher than the limit established by the Tax Code of the Republic of Uzbekistan.

Thus, the project will take into account the depreciation of existing and acquired property.

Object for amortization	residual value	Rate (per year)%
Acquired fixed assets		
Buildings	3000000	3%
Power Machines and Equipment	58947	5%
Working machinery and equipment	16000000	8%
Furniture	44000	15%
computers	24200	15%
transportation	800000	15%
Other fixed assets	300000	15%
Total:	20227147	
Acquired fixed assets		
financial costs	359315	14%

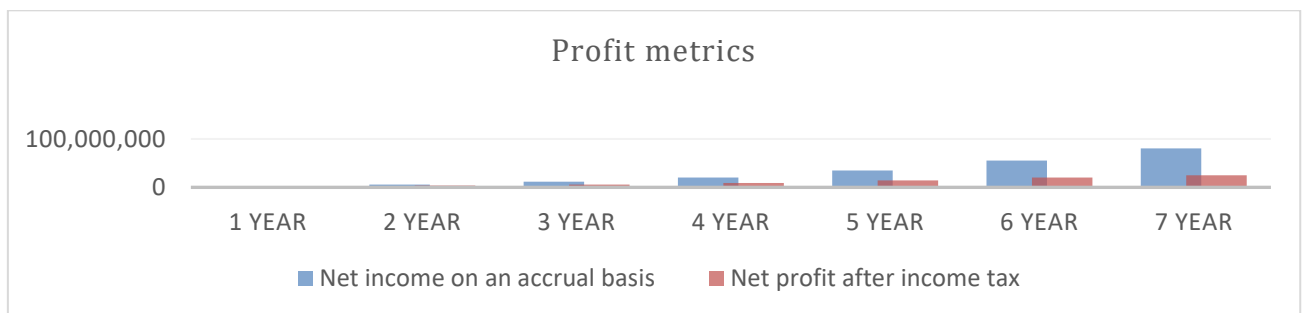
A detailed calculation of depreciation costs of existing and acquired fixed assets is shown in the Appendix.

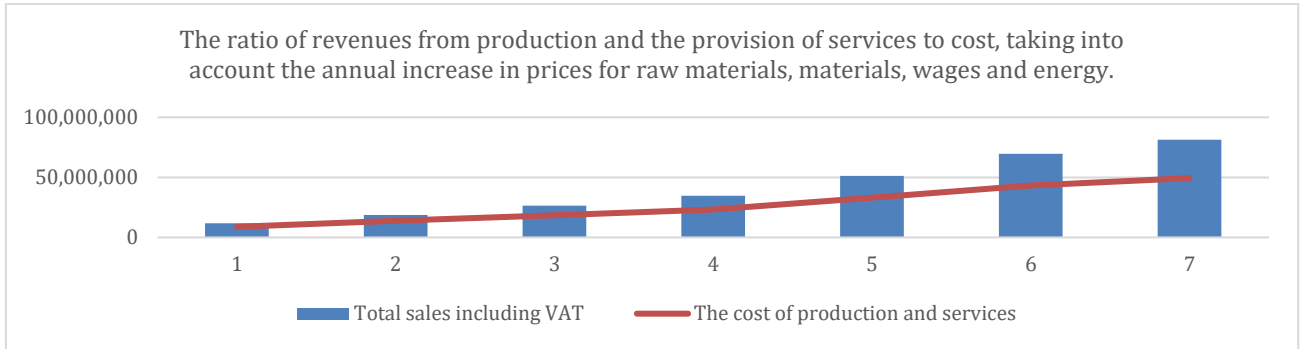
12. Calculation of profits and losses

12.1. Calculation of profits and losses of the enterprise

In the calculation of gains and losses and other deductions into account the divisions of the application, taking into account the existing taxes.

Estimated earnings and cash flow from the project for a period of 7 years, calculated in accordance with the plan of production and sales (see Annex).





Accumulated profits for the whole project for 7 years for the production of electric motors of different capacities amount to \$ US 80 288 284.

TOTAL INCOME INDICATORS PROJECT				
\$ US	By year			
	1 YEAR	2 YEAR	3 YEAR	4 YEAR
Proceeds from sale of finished products and services	11885871	18795256	26410694	34794092
The cost price of the production and provision of services	9688588	15188280	20424916	26045254
Net profit	2197283	3606976	5985778	8748838
accumulated profit	2197283	5804259	11790037	20538875

TOTAL INCOME INDICATORS PROJECT				
\$ US	By year			
	5 YEAR	6 YEAR	7 YEAR	Total:
Proceeds from sale of finished products and services	51341436	69573959	81473988	294275297
The cost price of the production and provision of services	37153317	49083663	56402995	213987013
Net profit	14188120	20490297	25070993	80288284
accumulated profit	34726995	55217291	80288284	

It is estimated that the discounted payback of the project is the second year, with accumulated earnings 2nd year of \$ US 55 217 291.

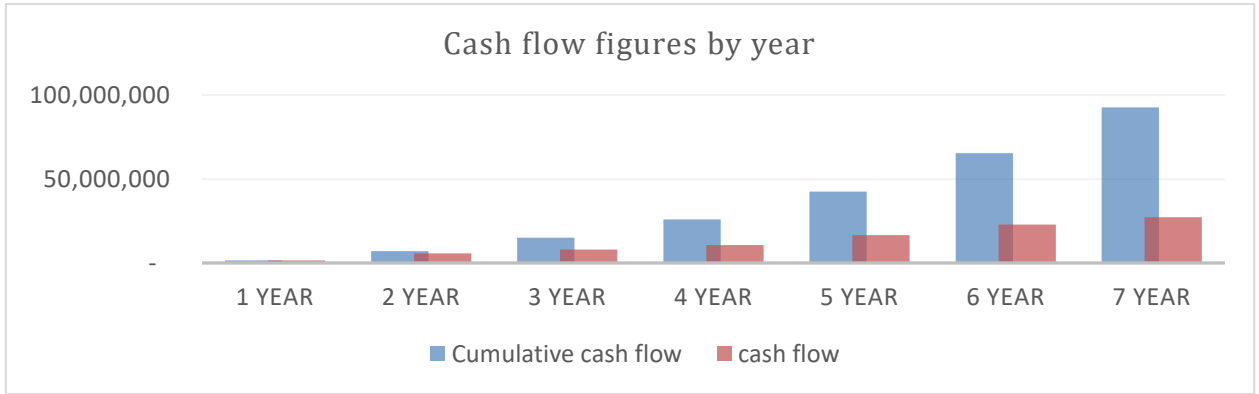
13. Cashflow Calculations

13.1. Statement of cash flows

Particular attention is paid to the flow of production. The financial plan for the current activity of the company, excluding the project is as follows.

After creating a plant for the production of electric motors of different capacities, planned annual increase in the volume of production at the current activity;

The financial viability of the project confirmed the positive balance of available funds throughout the consideration of the horizon.



The cumulative cash flow for the whole project for 7 years for the production of electric motors of different capacities amount to \$ US 92 669 143 for the entire planning period, it will be positive.

FINAL PERFORMANCE CASH FLOW				
\$ US	By year			
	1 YEAR	2 YEAR	3 YEAR	4 YEAR
Proceeds from sale of finished products and services	11885871	18795256	26410694	34794092
The cost price of the production and provision of services	10437199	13148697	18422004	24018776
cash flow	1448672	5646559	7988691	10775317
Cumulative cash flow	1448672	7095231	15083922	25859238

FINAL PERFORMANCE CASH FLOW				
\$ US	By year			
	5 YEAR	6 YEAR	7 YEAR	Total:
Proceeds from sale of finished products and services	51341436	69573959	81473988	294275297
The cost price of the production and provision of services	34712434	46592935	54274110	201606154
cash flow	16629002	22981024	27199878	92669143
Cumulative cash flow	42488241	65469265	92669143	

With regard to the current annual flow, it is also positive for the entire period of activity, even at very conservative calculations.

Cash flow from the project taking into account all deductions and taxes are shown in the financial and economic calculations.

14. Risk factors

Quality motors always paid and will be paid a lot of attention, because the use of these products is directly related to security issues.

Manufacturers seeking to be competitive and have a solid reputation in the market, should carefully monitor the quality of its products and the risks that may affect the achievement of this goal.

controlled:

- commercial
- profitability risk
- production risks
- financial risks
- raw material supply disruption risk

uncontrolled:

- regulatory risks
- political risks
- environmental risks

FROM to reduce the release of non-conforming products were analyzed potential operational risks in the enterprise, is currently the most critical. Types of occupational risks:

- risks of major industrial activity: technological risks, the risks of damage, accident risks.
- risks ancillary production activities: Risks power outages, longer equipment repair risks, the risks of emergency assistance systems.
- risks providing productive activities: the risk of failures in the work of providing services; failure risk information systems; risks in the sphere of circulation.

To assess risks applied FMEA method (analysis of failure modes and effects), the most commonly used for identification of component failures, systems, or processes that can lead to non-compliance with their assigned function. In this case, the method used to determine the risk priority value RPN ($RPN = S \cdot O \cdot D$), and for further calculating the total risk for each of the production steps, and identifying the most risky step.

FMEA- analysis is a technology that the possibility of defects and their impact on consumers. FMEA-analysis is carried out for the developed products and processes in order to reduce consumer risk from potential defects.

Block diagram of the qualitative assessment of the investment risks of the project:

For all the above types of potential defects determine their effects based on the experience and expertise of members of the competition committee. For each defect effects expert determine the significance score *S* using a table of points of significance. Relevance score ranges from 1 (the least significant risk) to 10 (for the most significant risks).

For each identified risk score determines the impact *I* on the progress of the process using a special table. Ball impact varies from 1 (for the risks did not affect the project) to 10 (for the risks that fail the business plan).

For each dedicated risk score is determined by the probability of *G* in the implementation by means of a special table. Credit occurrence varies from 1 (for risk, occurrence of which is unlikely) to 10

(for the risk, the likelihood of occurrence of which no doubt commission). This scale is based on the subjective criteria which are based on various assumptions.

After obtaining expert S, O estimates and D we define the priority of draft risk (RPN)

$$RPN = S \cdot O \cdot D$$

For risks that have multiple effects that can influence the final result of the implementation is determined by the number of RPN. Each RPN may have a value from 1 to 1000.

Folding, derived from the analysis of the project RPN, we get the priority number of the project's risk (RPN). It must be determined in advance and set limit value of risk priority (RPN). If RPN obtained by calculation exceeds RPN the project data is not allowed for further assessment of the competition.

stage	types of risk	S (indicator of the significance or severity failure)	O (index of probability or frequency of occurrence of a fault causes)	D (index of probability of a defect or error)	An RPN (risk priority number)	Σ
Receipt of raw materials to the factory	technological risks	8	5	3	120	557
	risks of breakdowns	6	5	4	120	
	emergency risks	1	5	2	10	
	risks of power outages	3	5	8	120	
	prolongation of maintenance risks	2	5	2	20	
	emergency risks ancillary systems	1	4	3	12	
	risks of failure in providing services	4	6	5	120	
	risks of disruptions in information systems	1	7	5	35	
The production process	technological risks	8	5	6	240	444
	risks of breakdowns	4	5	4	80	
	emergency risks	3	4	4	48	
	risks of power outages	4	5	2	40	
	risks of disruptions in information systems	3	4	3	36	
Storage and transport	technological risks	8	5	6	240	601
	risks of breakdowns	7	6	5	210	
	emergency risks	3	5	5	75	
	risks of failure in providing services	4	4	4	64	
	risks of disruptions in information systems	2	2	3	12	

Based on the obtained calculation totals RPN each step does not exceed 1,000.

In the process of implementing this project should focus on technical and technological risks, the occurrence of which in the worst scenarios can cause the creation of critical situations.

*The potential risk to the organization of this type of enterprise is the implementation of the project by forming a greater cost of the project, at the expense of credit funds.

Potential risks of the enterprise presented production risks, commercial risks, financial risks and risks related to force majeure.

Legal risks - these are the risks associated with the imperfection of the legislation, fuzzy paperwork, the uncertainty of court action in case of disagreement founders.

Despite the fact that Uzbekistan has established and improved legal and regulatory framework, to ensure that the activities of business entities, created by both local and foreign investors cannot even deny the existence of the factors affecting the legal risks. These include: the availability of the bureaucracy, the ongoing process of improving the legislation.

Risk reduction measures:

- Clear and unambiguous wording of the relevant articles in the documents;
- Attraction to process documents of experts with practical experience in this area;
- Allocation of the necessary funds to pay for high-end lawyers and interpreters.

Technical risks- risks related to the complexity of the work and the lack so far of the technical project. Possible underutilization of equipment and the delay in commissioning of engineering systems.

The company will attract highly qualified specialists for setting up equipment that reduces the technical risks to a minimum.

Risk reduction measures:

- Formation of the necessary requirements in the technical specification under development, the definition of a rigid material liability in the contract for execution of works;
- Accelerated study linking technical equipment and technical facilities;
- Conclusion on a "turnkey" contracts with sanctions for discrepancies and missed deadlines.

Production risks- risks related to the insufficiently high quality of products / services. A significant risk may be a lack of highly qualified personnel.

Risk reduction measures:

- Precise scheduling and management of the project;
- Training of qualified personnel.

Environmental risks - it risks associated with environmental pollution and emissions into the atmosphere and discharges into water.

Environmental risk assessment - identification and assessment of the probability of events that have adverse effects on the environment, public health, business activity and due to environmental pollution, violation of environmental requirements, emergency situations of natural and technogenic character.

Marketing risks - risks related to the output of the delay in the market, wrong choice of a marketing strategy, pricing errors, insufficient market research.

Competitor analysis shows that this market segment is poorly developed. In this regard, it should be thoroughly aware of their main advantages and focus on their main efforts and resources.

Measures to reduce risks:

For the company, which aims to win market share from competing firms, marketing objectives should be a priority.

The measures include:

- Creating a strong marketing service;

- Marketing strategy development;
- Marketing research: volumes, pricing, the buyer;
- Research on the segmentation of internal and external market.

Financial risks - related to the probability of loss of financial results (ie money), insolvency, consumer demand volatility, lower prices competitive disadvantage of working capital.

One of the financial risk factors is the need for timely investment, the presence of which is a prerequisite for the start of the project: how they linger, so delayed the start of the project.

Measures to reduce risks:

- The variety offered project financing schemes, both through its own funds and by borrowing;
- Development of investment - financial strategy, which aims to get into a profitable operation of the zone;
- A complex of measures to search for investment resources for business development.

Natural - natural risks - these are the risks associated with the manifestations of the elemental forces of nature: earthquake, flood, storm, fire, epidemics, drought, etc.

Measures to reduce risks:

- Compulsory insurance.

Evaluation of project opportunities

Before offering this project for consideration, initiator of the project was carried out in-depth analysis of the existing situation in the market of Uzbekistan, really taking into account all factors that may have an impact on all stages of the project.

Based on these financial results, as well as the overall analysis of the entire program for the production, which is a graph of the activities of the project, an analysis of the current situation in the domestic and foreign markets, markets, potential competition from other similar companies operating in this segment, possible operational risks, as well as other factors, we can conclude about the viability and effectiveness of the ideas and actions presented and will be implemented in a given th project.

15. Findings

Findings - The result of the project makes it possible to be optimistic to decide on its implementation in relation to its projected profitability, Malmö risk of direct financial benefits for the organizers.

The analysis of business plans to the following conclusions:

- Management risk is minimized because the enterprise is coordinated by an experienced manager with extensive experience in production, greatly reduces the risk of possible occurrence of failures in the enterprise;
- Projected cash flows are sufficient to prompt the enterprise.

In general, this project will provide an opportunity to implement the idea of the project initiators, as well as participate in the process of profound economic transformations taking place in Uzbekistan at this stage.

Analysis of financial stability characterized by the company's solvency, which in turn reflects the availability of stocks and costs the sources of their formation. After spending the analysis of the below given calculation (application) of the cash flows of real money it can be seen that the resulting gross income completely covers all costs, taxes, and other expenses. After all payments is still sufficient amount of net profit, which will focus on working capital and for the further expansion of the company. This means that the proposed project is efficient, cost effective and sustainable.

PROJECT COST

ANNEX 1

NAME	Formed EQUITY IN FOREIGN CURRENCY \$ US	INVESTMENT FUNDS IN FOREIGN CURRENCY \$ US	TOTAL IN FOREIGN CURRENCY \$ US
FIXED ASSETS			
purchase			
Buildings	-	3 000 000	3 000 000
Power Machines and Equipment	-	58 947	58 947
Working machinery and equipment	-	16 000 000	16 000 000
Furniture	-	44 000	44 000
computers	-	24 200	24 200
transportation	-	800 000	800 000
Other fixed assets	-	300 000	300 000
Registration, the formation of the authorized capital, paperwork	-	10 030	10 030
project work	-	7 716	7 716
Acquisition of land	-	104 211	104 211
Preparation of utilities (power, gas, water and sewage), landscaping and outdoor lighting.	-	14 062	14 062
Installation works, creation of utility systems	-	1 041 609	1 041 609
Installation technology training work on it	-	617 249	617 249
Obtaining necessary permits	-	96 445	96 445
The organization of the advertising company	-	17 368	17 368
Total:	-	22 135 837	22 135 837
INITIAL WORKING CAPITAL			
Initial working capital (raw materials and material costs for the organization of production at 100% load, 1 month)	-	3 132 580	3 132 580
Total:	-	3 132 580	3 132 580
FINANCIAL COSTS			
The costs of customs procedures (on the basis of the loan amount)	-	84 294,74	84 295
Transportation costs (calculated on the loan amount)	-	252 884,21	252 884
Pre-project expenses	-	22 135,84	22 136
Total:	-	359 315	359 315
TOTAL COST OF THE PROJECT	-	25 627 732	25 627 732

depreciation expense

APPENDIX 2

Object for amortization	residual value	Rate (per year)%	By year							Total:
			1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	7 YEAR	
Acquired fixed assets										
Buildings	3 000 000	3%	90 000,0	90 000,0	90 000,0	90 000,0	90 000,0	90 000,0	90 000,0	630 000,0
structures	0	5%	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Subordinate unit	0	5%	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Power Machines and Equipment	58 947	5%	2 947,4	2 947,4	2 947,4	2 947,4	2 947,4	2 947,4	2 947,4	20 631,6
Working machinery and equipment	16 000 000	8%	1 280 000,0	1 280 000,0	1 280 000,0	1 280 000,0	1 280 000,0	1 280 000,0	1 280 000,0	8 960 000,0
mobile transport	0	4%	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Furniture	44 000	15%	6 600,0	6 600,0	6 600,0	6 600,0	6 600,0	6 600,0	6 600,0	46 200,0
computers	24 200	15%	3 630,0	3 630,0	3 630,0	3 630,0	3 630,0	3 630,0	3 630,0	25 410,0
transportation	800 000	20%	160 000,0	160 000,0	160 000,0	160 000,0	160 000,0	160 000,0	160 000,0	1 120 000,0
Other fixed assets	300 000	20%	60 000,0	60 000,0	60 000,0	60 000,0	60 000,0	60 000,0	60 000,0	420 000,0
Total:	20 227 147		1 603 177,4	1 603 177,4	1 603 177,4	1 603 177,4	1 603 177,4	1 603 177,4	1 603 177,4	11 222 241,6
Acquired fixed assets										
financial costs	359 315	14%	51 330,7	51 330,7	51 330,7	51 330,7	51 330,7	51 330,7	51 330,7	359 314,8
TOTAL:	20 227 147		1 603 177	1 603 177	1 603 177	1 603 177	1 603 177	1 603 177	1 603 177	11 222 242
accumulated amortization			1 603 177	3 206 355	4 809 532	6 412 709	8 015 887	9 619 064	11 222 242	

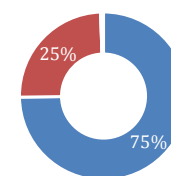
The volume of production at full capacity

ANNEX 3a

DATA ON PRODUCTION

Name of products	measurement units	The proportion of the total volume in%
The electric motor over 0.03 to 0.18 kW	%	74,80%
The electric motor over 0.18 to 0.6 kW	%	24,61%
The electric motor over 5.5 to 10 kW	%	0,16%
The electric motor over 10 to 15 kW	%	0,16%
The electric motor over 75 to 100 kW	%	0,16%
The electric motor over 100 to 125 kW	%	0,05%
The electric motor over 250 to 320 kW	%	0,05%
Total:		100,00%

Share in the total volume of production, in%



- The electric motor over 0.03 to 0.18 kW
- The electric motor over 0.18 to 0.6 kW
- The electric motor over 5.5 to 10 kW
- The electric motor over 10 to 15 kW
- The electric motor over 75 to 100 kW
- The electric motor over 100 to 125 kW
- The electric motor over 250 to 320 kW

DATA types of manufactured products

The maximum volume of production

Name of products	measurement units	The volume of production in the year	Production volume per month	The volume of production per day	Production volume per hour
The electric motor over 0.03 to 0.18 kW	PC.	3 388 000,00	282 333,33	10 858,97	678,69
The electric motor over 0.18 to 0.6 kW	PC.	1 114 754,83	92 896,24	3 572,93	223,31
The electric motor over 5.5 to 10 kW	PC.	7 357,38	613,12	23,58	1,47
The electric motor over 10 to 15 kW	PC.	7 357,38	613,12	23,58	1,47
The electric motor over 75 to 100 kW	PC.	7 357,38	613,12	23,58	1,47
The electric motor over 100 to 125 kW	PC.	2 229,51	185,79	7,15	0,45
The electric motor over 250 to 320 kW	PC.	2 229,51	185,79	7,15	0,45
TOTAL:		4 529 286,00	377 440,50	14 516,94	907,31

Data on capacity development plan

Years the project	Scope	measurement units	2021	2022	2023	2024
Percentage growth of the volume of production			100%	122%	130%	140%
Name of products			1 YEAR	2 YEAR	3 YEAR	4 YEAR
Total production of single-phase induction motors to over 0.03 to 0.18 kW per year	domestic	PC.	1 856 800,00	2 268 800,00	2 420 000,00	3 388 000,00
Total production of induction motors over 0.18 to 0.6 kW per year	General works	PC.	500 000,00	610 943,56	796 253,45	1 114 754,83
Total production of induction motors over 5.5 to 10 kW per year	General works	PC.	3 300,00	4 032,23	5 255,27	7 357,38
Total production of induction motors over 10 to 15 kW per year	General works	PC.	3 300,00	4 032,23	5 255,27	7 357,38
Total production of induction motors over 75 to 100 kW per year	General works	PC.	3 300,00	4 032,23	5 255,27	7 357,38
Total production asynchronous motors 100 to 125 kW per year	General works	PC.	1 000,00	1 221,89	1 592,51	2 229,51
Total production of induction motors over 250 to 320 kW per year	General works	PC.	1 000,00	1 221,89	1 592,51	2 229,51

Data on the timetable

Number of shifts per day	change	2,00
Work shift	hour	8,00
The average number of working days in a month	day	26,00
The number of working months in a year	month	12,00

PLAN OF

APPENDIX 4a

Name of products	Number of services at 100% powerful. in year		The level of unsold products at the end of the period
The electric motor over 0.03 to 0.18 kW	3 388 000	PC.	8,33%
The electric motor over 0.18 to 0.6 kW	1 114 755	PC.	8,33%
The electric motor over 5.5 to 10 kW	7 357	PC.	8,33%
The electric motor over 10 to 15 kW	7 357	PC.	8,33%
The electric motor over 75 to 100 kW	7 357	PC.	8,33%
The electric motor over 100 to 125 kW	2 230	PC.	8,33%
The electric motor over 250 to 320 kW	2 230	PC.	8,33%

Name of products	By year							Total:
	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	7 YEAR	
	20%	30%	40%	50%	70%	90%	100%	
DEVELOPMENT OF RANGE (%)								
The electric motor over 0.03 to 0.18 kW	20,0%	30%	40%	50%	70%	90%	100%	57%
The electric motor over 0.18 to 0.6 kW	20,0%	30%	40%	50%	70%	90%	100%	57%
The electric motor over 5.5 to 10 kW	20,0%	30%	40%	50%	70%	90%	100%	57%
The electric motor over 10 to 15 kW	20,0%	30%	40%	50%	70%	90%	100%	57%
The electric motor over 75 to 100 kW	20,0%	30%	40%	50%	70%	90%	100%	57%
The electric motor over 100 to 125 kW	20,0%	30%	40%	50%	70%	90%	100%	57%
The electric motor over 250 to 320 kW	20,0%	30%	40%	50%	70%	90%	100%	57%
Production quantities								
The electric motor over 0.03 to 0.18 kW	677 600,0	1 016 400,0	1 355 200,0	1 694 000,0	2 371 600,0	3 049 200,0	3 388 000,0	13 552 000,0
The electric motor over 0.18 to 0.6 kW	222 951,0	334 426,5	445 901,9	557 377,4	780 328,4	1 003 279,4	1 114 754,8	4 459 019,3
The electric motor over 5.5 to 10 kW	1 471,5	2 207,2	2 943,0	3 678,7	5 150,2	6 621,6	7 357,4	29 429,5
The electric motor over 10 to 15 kW	1 471,5	2 207,2	2 943,0	3 678,7	5 150,2	6 621,6	7 357,4	29 429,5
The electric motor over 75 to 100 kW	1 471,5	2 207,2	2 943,0	3 678,7	5 150,2	6 621,6	7 357,4	29 429,5
The electric motor over 100 to 125 kW	445,9	668,9	891,8	1 114,8	1 560,7	2 006,6	2 229,5	
The electric motor over 250 to 320 kW	445,9	668,9	891,8	1 114,8	1 560,7	2 006,6	2 229,5	8 918,0
PHYSICAL unsold goods								
The electric motor over 0.03 to 0.18 kW	56 466,7	84 700,0	112 933,3	141 166,7	197 633,3	254 100,0	282 333,3	1 129 333,3
The electric motor over 0.18 to 0.6 kW	18 579,2	27 868,9	37 158,5	46 448,1	65 027,4	83 606,6	92 896,2	371 584,9
The electric motor over 5.5 to 10 kW	122,6	183,9	245,2	306,6	429,2	551,8	613,1	2 452,5
The electric motor over 10 to 15 kW	122,6	183,9	245,2	306,6	429,2	551,8	613,1	2 452,5
The electric motor over 75 to 100 kW	122,6	183,9	245,2	306,6	429,2	551,8	613,1	2 452,5
The electric motor over 100 to 125 kW	37,2	55,7	74,3	92,9	130,1	167,2	185,8	743,2
The electric motor over 250 to 320 kW	37,2	55,7	74,3	92,9	130,1	167,2	185,8	743,2
TOTAL OUTPUT								
The electric motor over 0.03 to 0.18 kW	621 133,0	931 700,0	1 242 266,0	1 552 833,0	2 173 966,0	2 795 100,0	3 105 666,0	12 422 664,0
The electric motor over 0.18 to 0.6 kW	204 371,0	306 557,0	408 743,0	510 929,0	715 301,0	919 672,0	1 021 858,0	4 087 431,0
The electric motor over 5.5 to 10 kW	1 348,0	2 023,0	2 697,0	3 372,0	4 720,0	6 069,0	6 744,0	26 973,0
The electric motor over 10 to 15 kW	1 348,0	2 023,0	2 697,0	3 372,0	4 720,0	6 069,0	6 744,0	26 973,0
The electric motor over 75 to 100 kW	1 348,0	2 023,0	2 697,0	3 372,0	4 720,0	6 069,0	6 744,0	26 973,0
The electric motor over 100 to 125 kW	408,0	613,0	817,0	1 021,0	1 430,0	1 839,0	2 043,0	8 171,0
The electric motor over 250 to 320 kW	408,0	613,0	817,0	1 021,0	1 430,0	1 839,0	2 043,0	8 171,0
TOTAL	830 364,0	1 245 552,0	1 660 734,0	2 075 920,0	2 906 287,0	3 736 657,0	4 151 842,0	16 607 356,0

PLAN OF INCOME FOR THE PRODUCTION

ANNEX 5a

Name of products	Selling price in the domestic market with VAT		VAT excluded domestic sales		Current sales prices on the market with VAT		The cost price with VAT	mark-up	VAT (value added tax)	VAT (value added tax)
	\$ US		\$ US		\$ US		\$ US	\$ US	%	\$ US
The electric motor over 0.03 to 0.18 kW	PC.	3,51	PC.	3,28	PC.	4,27	2,14	54%	20%	0,23
The electric motor over 0.18 to 0.6 kW	PC.	34,94	PC.	32,69	PC.	41,49	21,40	53%	20%	2,26
The electric motor over 5.5 to 10 kW	PC.	164,32	PC.	151,63	PC.	220,90	88,21	72%	20%	12,68
The electric motor over 10 to 15 kW	PC.	201,45	PC.	187,76	PC.	331,00	119,30	57%	20%	13,69
The electric motor over 75 to 100 kW	PC.	470,82	PC.	443,34	PC.	963,48	305,91	45%	20%	27,48
The electric motor over 100 to 125 kW	PC.	811,32	PC.	767,71	PC.	1 973,58	549,69	40%	20%	43,60
The electric motor over 250 to 320 kW	PC.	2 714,12	PC.	2 572,85	PC.	5 547,79	1 866,48	38%	20%	141,27

Name of products	By year							
	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	7 YEAR	Total:
Sales excluding VAT								
The electric motor over 0.03 to 0.18 kW	2 036 323	3 219 269	4 523 921	5 959 975	8 794 105	11 916 686	13 955 073	50 405 352
The electric motor over 0.18 to 0.6 kW	6 680 260	10 560 988	14 840 991	19 552 052	28 849 605	39 093 381	45 780 450	165 357 728
The electric motor over 5.5 to 10 kW	204 399	323 298	454 263	598 596	883 095	1 196 745	1 401 591	5 061 987
The electric motor over 10 to 15 kW	253 098	400 326	562 494	741 214	1 093 496	1 481 875	1 735 527	6 268 029
The electric motor over 75 to 100 kW	597 617	945 254	1 328 167	1 750 164	2 581 977	3 499 022	4 097 947	14 800 149
The electric motor over 100 to 125 kW	313 227	495 996	696 722	917 661	1 354 602	1 836 017	2 149 723	7 763 948
The electric motor over 250 to 320 kW	1 049 722	1 662 240	2 334 934	3 075 371	4 539 698	6 153 071	7 204 400	26 019 435
TOTAL	11 134 645	17 607 372	24 741 492	32 595 032	48 096 578	65 176 798	76 324 712	275 676 628
Sales including VAT								
The electric motor over 0.03 to 0.18 kW	2 178 354	3 443 810	4 839 461	6 375 677	9 407 486	12 747 864	14 928 427	53 921 079
The electric motor over 0.18 to 0.6 kW	7 141 421	11 290 049	15 865 515	20 901 797	30 841 191	41 792 130	48 940 830	176 772 933
The electric motor over 5.5 to 10 kW	221 498	350 344	492 265	648 672	956 971	1 296 860	1 518 842	5 485 452
The electric motor over 10 to 15 kW	271 553	429 517	603 511	795 263	1 173 233	1 589 933	1 862 080	6 725 091
The electric motor over 75 to 100 kW	634 666	1 003 854	1 410 506	1 858 664	2 742 045	3 715 942	4 351 997	15 717 675
The electric motor over 100 to 125 kW	331 017	524 168	736 294	969 782	1 431 540	1 940 298	2 271 822	8 204 921
The electric motor over 250 to 320 kW	1 107 361	1 753 513	2 463 144	3 244 237	4 788 971	6 490 933	7 599 989	27 448 147
TOTAL	11 885 871	18 795 256	26 410 694	34 794 092	51 341 436	69 573 959	81 473 988	294 275 297

Index increase in the cost of products sold by year

Name of product	index%
Electric motors	5,4%

UTILITY COSTS AT FULL CAPACITY

APPENDIX 6

Name	unit of measurement	monthly demand	unit cost \$ US	Monthly cost \$ US
electric power	kW / h	1 321 041,7	0,0474	62 576
Water	m3	1 130,0	0,0895	101
Gas	m3	0,0	0,1053	0
Garbage	m3	1,5	4,4105	7
TOTAL				62 683

Name	unit of measurement	Annual demand	unit cost \$ US	annual cost \$ US
electric power	kW / h	15 852 501,0	0,0474	750 908
Water	m3	13 560,0	0,0895	1 213
Gas	m3	0,0	0,1053	0
Garbage	m3	18,0	4,4105	79
TOTAL				752 201

PLANNED STAFFING COMPANY

APPENDIX 7

	Workplaces	Average monthly \$ US	The total monthly \$ US	In total for a year
PRODUCTION STAFF				
Administrative maintenance department	5,0	158	789	9 474
warehouse workers	10,0	179	1 789	21 474
the driver of the electric vehicle	4,0	200	800	9 600
Technical Control Department	10,0	189	1 895	22 737
assembly line workers	173,0	168	29 137	349 642
Engineering group	4,0	184	737	8 842
laboratory workers	10,0	184	1 842	22 105
Shop for metal working	9,0	168	1 516	18 189
paint shop	8,0	168	1 347	16 168
Logistics	7,0	189	1 326	15 916
Total:	240		41 179	494 147
Total production staff	240		41 179	
social insurance payment (12% of the payroll, but not less than 65% * 1 minimum wage)		12%	4 941	
Total with CAP:			46 120	
ADMINISTRATIVE STAFF				
Office and administration the department	17 7	368 295	6 263 2 063	75 158 24 758
Total:	24		8 326	99 916
Total administrative staff	24		8 326	
social insurance payment (12% of the payroll, but not less than 65% * 1 minimum wage)		12%	999	
Total with CAP:			9 325	
TOTAL	264		55 446	

COST OF RAW MATERIAL AT FULL CAPACITY BY
by name

ANNEX 8

The electric motor over 0.03 to 0.18 kW

Name	U rev.	the origin of raw materials	Demand for units.	Price per unit of	Price per unit of	Costs by 1 unit.	Total VAT 1 units.	Monthly production volume	Monthly cost	annual cost
				measure. Without VAT	measure. VAT included	products	products			
				\$ US	\$ US	\$ US			\$ US	\$ US
Bolts, Nuts, Washers	kg	local	0.01000	1,58316	1,68421	0,01684	0,00101	282 333,33	4 755,09	57 061,05
Welding electrodes	kg	local	0.00000	0,47989	0,51053	0,00000	0,00000	282 333,33	0,00	0,00
Tin-lead solders	kg	imported	0.00250	9,21670	9,80500	0,02451	0,00147	282 333,33	6 920,70	83 048,35
Brass sheets and strips	kg	imported	0.00375	3,64629	3,87903	0,01455	0,00087	282 333,33	4 106,93	49 283,10
Carbon electrodes	kg	imported	0.00250	30,32440	32,26000	0,08065	0,00484	282 333,33	22 770,18	273 242,20
Copper wires	kg	imported	0.41900	3,19145	3,39516	1,42257	0,08535	282 333,33	401 639,66	4 819 675,90
Installation wires	m	local	0.00000	2,37053	2,52184	0,00000	0,00000	282 333,33	0,00	0,00
Hardwood Lumber	m3	imported	0.00000	40,17742	42,74194	0,00000	0,00000	282 333,33	0,00	0,00
Electrical insulating cardboard	kg	imported	0.00000	1,81215	1,92782	0,00000	0,00000	282 333,33	0,00	0,00
Technical linen threads	kg *	imported	0.00125	7,37597	7,84677	0,00981	0,00059	282 333,33	2 769,26	33 231,09
Kiper tape	m	local	0.47500	0,00742	0,00789	0,00375	0,00023	282 333,33	1 058,75	12 705,00
Taffeta tape	m	imported	0.00000	0,01516	0,01613	0,00000	0,00000	282 333,33	0,00	0,00
Assorted rags	kg	local	0.00000	0,34416	0,36613	0,00000	0,00000	282 333,33	0,00	0,00
Technical cotton fabrics for the electrical industry	m2	imported	0.00000	9,65774	10,27419	0,00000	0,00000	282 333,33	0,00	0,00
paints and varnishes	kg	local	0.00000	1,13710	1,20968	0,00000	0,00000	282 333,33	0,00	0,00
Insulating varnishes	kg	local	0.08750	0,90968	0,96774	0,08468	0,00508	282 333,33	23 907,26	286 887,10
Light electrical insulating varnish	m	imported	0.00000	0,53065	0,56452	0,00000	0,00000	282 333,33	0,00	0,00
Getinaks electrotechnical sheet	kg	imported	0.00000	2,86548	3,04839	0,00000	0,00000	282 333,33	0,00	0,00
Linonin tube	m	imported	0.00000	0,15161	0,16129	0,00000	0,00000	282 333,33	0,00	0,00
Chemicals	kg	local	0.00000	0,24737	0,26316	0,00000	0,00000	282 333,33	0,00	0,00
Pine Rosin	kg *	imported	0.00250	2,18674	2,32632	0,00582	0,00035	282 333,33	1 641,99	19 703,89
Sanding paper	m2	local	0.00000	0,14347	0,15263	0,00000	0,00000	282 333,33	0,00	0,00
Aviation gasoline (B-70)	kg	local	0.00000	1,21290	1,29032	0,00000	0,00000	282 333,33	0,00	0,00
Kerosene lighting	kg *	local	0.00000	0,38851	0,41331	0,00000	0,00000	282 333,33	0,00	0,00
Solid paraffin	kg *	imported	0.00000	0,71258	0,75806	0,00000	0,00000	282 333,33	0,00	0,00
TsIATIM-201 greasing	kg *	imported	0.00850	0,96123	1,02258	0,00869	0,00052	282 333,33	2 454,02	29 448,28
Paint brushes and brushes	PC	local	0.00000	0,59368	0,63158	0,00000	0,00000	282 333,33	0,00	0,00
Metal brushes	PC	local	0.00000	0,57389	0,61053	0,00000	0,00000	282 333,33	0,00	0,00
Stator core steel	kg	imported	0.36953	0,50373	0,53588	0,19803	0,01188	282 333,33	55 909,20	670 910,38
Rotor core steel	kg	imported	0.27500	0,50373	0,53588	0,14737	0,00884	282 333,33	41 606,85	499 282,14
Shaft steel	kg	imported	0.07734	0,50373	0,53588	0,04145	0,00249	282 333,33	11 701,93	140 423,10
Housing Aluminum	kg	imported	0.08750	0,82039	0,87275	0,07637	0,00458	282 333,33	21 560,56	258 726,74
Total:						2,14	0,13		602 802,36	7 233 628,33

The ratio of imported raw materials to the local in the production of 1 unit. finished products:		
	\$ US	at %
imported	2,030	95,07%
local	0,1053	4,93%

The electric motor over 250 to 320 kW

Name	U rev.	the origin of raw materials	Demand for units.	Price per unit of measure. Without VAT	Price per unit of measure. VAT included	Costs by 1 unit. products	Total VAT 1 units. products	Monthly production volume	Monthly cost	annual cost
				\$ US	\$ US	\$ US			\$ US	\$ US
COST OF RAW MATERIALS										
Carbon steel	kg	imported	2,50000	0,00000	0,00000	0,00000	0,00000	185,79	0,00	0,00
Sheet hire	kg	imported	5,50000	0,00000	0,00000	0,00000	0,00000	185,79	0,00	0,00
Pipes steel water-gas conducting	kg	local	2,50000	0,00000	0,00000	0,00000	0,00000	185,79	0,00	0,00
Bolts, Nuts, Washers	kg *	local	0,90000	1,58316	1,68421	1,51579	0,09095	185,79	281,62	3 379,47
Welding electrodes	kg *	imported	0,09000	0,47989	0,51053	0,04595	0,00276	185,79	8,54	102,44
Tin-lead solders	kg *	imported	0,20000	9,21670	9,80500	1,96100	0,11766	185,79	364,34	4 372,07
Copper-phosphorus alloy, MF-3	kg	imported	0,40000	3,76000	4,00000	1,60000	0,09600	185,79	297,27	3 567,22
Brass sheets and strips	kg *	imported	0,21000	3,64629	3,87903	0,81460	0,04888	185,79	151,35	1 816,15
Copper sheets and strip	kg *	local	0,25000	2,82000	3,00000	0,75000	0,04500	185,79	139,34	1 672,13
Aluminum foil	kg *	imported	0,03500	1,78600	1,90000	0,06650	0,00399	185,79	12,36	148,26
Carbon electrodes	kg	imported	0,20000	30,32440	32,26000	6,45200	0,38712	185,79	1 198,73	14 384,80
Copper winding wires	kg	imported	180,00000	3,19145	3,39516	611,12903	36,66774	185,79	113 543,17	1 362 518,09
Installation wire	m	local	18,00000	2,37053	2,52184	45,39316	2,72359	185,79	8 433,71	101 204,48
Hardwood Lumber	m3	imported	0,10000	40,17742	42,74194	4,27419	0,25645	185,79	794,11	9 529,36
Electrical insulating cardboard	kg	imported	4,00000	1,81215	1,92782	7,71129	0,46268	185,79	1 432,70	17 192,40
Cable paper	kg	imported	1,50000	2,02842	2,15789	3,23684	0,19421	185,79	601,38	7 216,57
Technical linen cords	kg	imported	3,00000	7,37597	7,84677	23,54032	1,41242	185,79	4 373,61	52 483,38
Kiper tape	m	local	280,00000	0,00742	0,00789	2,21053	0,13263	185,79	410,70	4 928,39
Taffeta tape	m	imported	450,00000	0,01516	0,01613	7,25806	0,43548	185,79	1 348,49	16 181,93
Assorted rags	kg	local	3,00000	0,34416	0,36613	1,09839	0,06590	185,79	204,07	2 448,86
Technical felt	kg *	imported	0,05000	2,19839	2,33871	0,11694	0,00702	185,79	21,73	260,71
Technical cotton fabrics for the electrical industry	m2	imported	1,50000	9,65774	10,27419	15,41129	0,92468	185,79	2 863,30	34 359,62
paints and varnishes	kg	local	7,00000	1,13710	1,20968	8,46774	0,50806	185,79	1 573,24	18 878,91
Lead litharge	kg	imported	0,70000	1,75113	1,86290	1,30403	0,07824	185,79	242,28	2 907,35
Drying oil	kg	local	1,20000	0,52306	0,55645	0,66774	0,04006	185,79	124,06	1 488,74
Insulating varnishes	kg	local	25,00000	0,90968	0,96774	24,19355	1,45161	185,79	4 494,98	53 939,75
Bakelite varnish	kg	local	0,20000	1,40242	1,49194	0,29839	0,01790	185,79	55,44	665,26
Thickly Painted Paints	kg	local	3,00000	0,90968	0,96774	2,90323	0,17419	185,79	539,40	6 472,77
Light electrical insulating varnish	m	imported	10,00000	0,53065	0,56452	5,64516	0,33871	185,79	1 048,83	12 585,94
Insulating glass fiberglass	m	imported	20,00000	0,09097	0,09677	1,93548	0,11613	185,79	359,60	4 315,18
Getinaks electrotechnical sheet	kg	imported	10,00000	2,86548	3,04839	30,48387	1,82903	185,79	5 663,67	67 964,09
Mikalenta	kg	imported	2,00000	10,09742	10,74194	21,48387	1,28903	185,79	3 991,54	47 898,50
Mikanit flexible	kg	imported	1,00000	18,95161	20,16129	20,16129	1,20968	185,79	3 745,82	44 949,79
Insulating tapes made of glass fibers	m	imported	320,00000	0,02274	0,02419	7,74194	0,46452	185,79	1 438,39	17 260,72
Rubber and rubber-fabric plates	kg	imported	5,00000	1,06368	1,13158	5,65789	0,33947	185,79	1 051,19	12 614,33
Asbestos cardboard	kg	local	6,00000	0,67468	0,71774	4,30645	0,25839	185,79	800,11	9 601,28
Asbestos paper	kg	local	2,00000	0,95022	1,01087	2,02174	0,12130	185,79	375,62	4 507,49
Asbestine electrical and thermal insulation tape	m	imported	64,00000	0,47000	0,50000	32,00000	0,92000	185,79	5 945,36	71 344,31
Pine Rosin	kg *	imported	0,20000	2,18674	2,32632	0,46526	0,02792	185,79	86,44	1 037,31
Technical ethyl alcohol	l *	local	0,09000	0,64678	0,68806	0,06193	0,00372	185,79	11,51	138,06
Glycerol	kg *	local	0,11000	0,79158	0,84211	0,09263	0,00556	185,79	17,21	206,52
Solvents	kg	local	8,00000	0,61347	0,65263	5,22105	0,31326	185,79	970,03	11 640,39
Sanding paper	m2	local	0,40000	0,14347	0,15263	0,06105	0,00366	185,79	11,34	136,12
Aviation gasoline (B-70)	kg	local	6,00000	1,21290	1,29032	7,74194	0,46452	185,79	1 438,39	17 260,72
Kerosene lighting	kg	local	7,50000	0,38851	0,41331	3,09980	0,18599	185,79	575,92	6 911,03
Solid paraffin	kg	imported	1,50000	0,71258	0,75806	1,13710	0,06823	185,79	211,26	2 535,17
TsIATIM-201 greasing	kg	imported	2,00000	0,96123	1,02258	2,04516	0,12271	185,79	379,98	4 559,71
Vaseline technical	kg	local	20,00000	8,42968	8,96774	179,35484	10,76129	185,79	33 322,78	399 873,35
Paint brushes and brushes	PC	local	3,00000	0,59368	0,63158	1,89474	0,11368	185,79	352,03	4 224,33
Metal brushes	PC	local	3,00000	0,57389	0,61053	1,83158	0,10989	185,79	340,29	4 083,52
Heart Stator Steel	kg	imported	483,75000	0,50373	0,53588	259,23338	15,55400	185,79	48 163,61	577 963,32
Heart rotor steel	kg	imported	360,00000	0,50373	0,53588	192,91786	11,57507	185,79	35 842,69	430 112,24
Shaft steel	kg	imported	101,25000	0,50373	0,53588	54,25815	3,25549	185,79	10 080,76	120 969,07
Bed, bearing shields, casing, bearings	kit	imported	1,00000	238,01241	253,20469	253,20469	15,19228	185,79	47 043,53	564 522,31
Total:						1 866,48	111,99		346 777,82	4 161 333,87

The ratio of imported raw materials to the local in the production of 1 unit. finished products:

	\$ US	at %
imported	1 573,293	84,29%
local	293,1862	15,71%

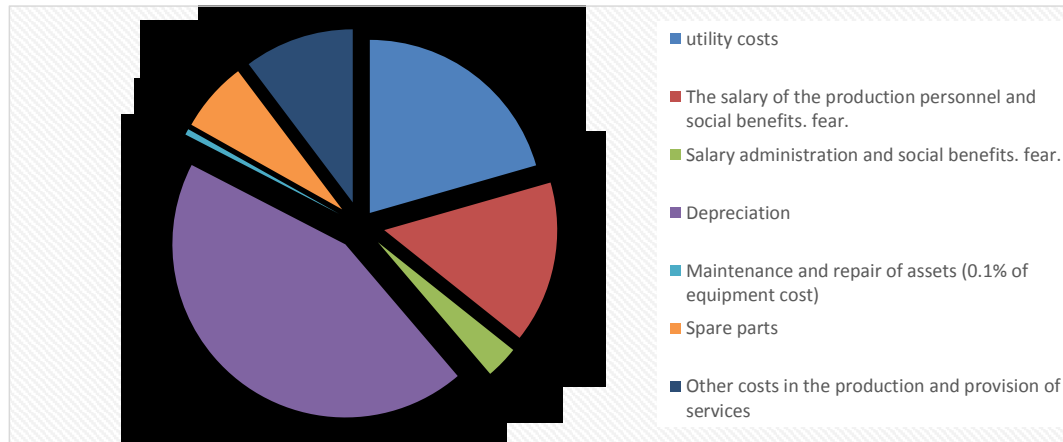
Total cost of the main raw materials **3 132 580,11** **37 590 961,27**

COST OF PRODUCTION AND SERVICES AT FULL CAPACITY

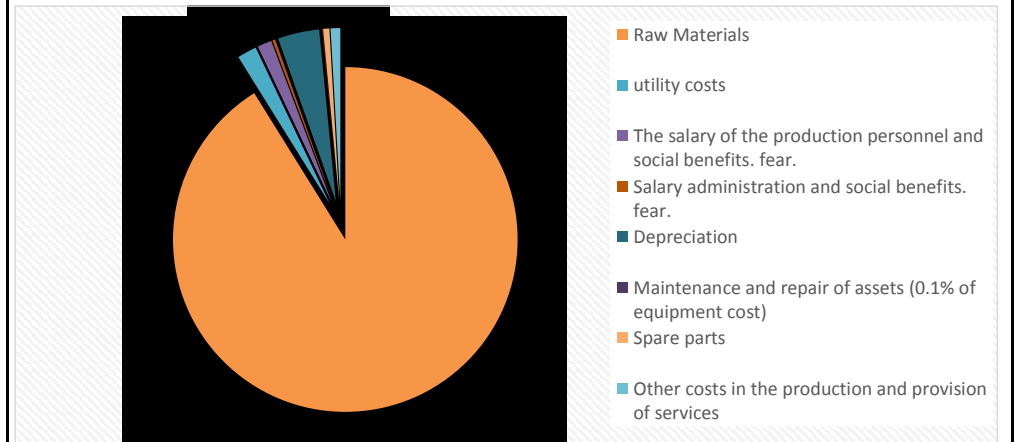
APPENDIX 9

Name	Total costs per year \$ US	The share of fixed costs in total costs (%)	The proportion of variable costs in total costs (%)	fixed costs \$ US	variable costs \$ US
Raw Materials	37 590 961	0%	100%	0	37 590 961
including:					
<i>The electric motor over 0.03 to 0.18 kW</i>	7 233 628	0%	100%	0	7 233 628
<i>The electric motor over 0.18 to 0.6 kW</i>	21 414 484	0%	100%	0	21 414 484
<i>The electric motor over 5.5 to 10 kW</i>	556 861	0%	100%	0	556 861
<i>The electric motor over 10 to 15 kW</i>	748 380	0%	100%	0	748 380
<i>The electric motor over 75 to 100 kW</i>	2 250 730	0%	100%	0	2 250 730
<i>The electric motor over 100 to 125 kW</i>	1 225 544	0%	100%	0	1 225 544
<i>The electric motor over 250 to 320 kW</i>	4 161 334	0%	100%	0	4 161 334
The salary of the production personnel and social benefits. fear.	553 445	0%	100%	0	553 445
Salary administration and social benefits. fear.	111 906	100%	0%	111 906	0
The cost of creating working conditions (5%)	33 268	100%	0%	33 268	0
utility costs	752 201	0%	100%	0	752 201
Depreciation	1 603 177	100%	0%	1 603 177	0
Maintenance and repair of assets (0.1% of equipment cost)	20 227	0%	100%	0	20 227
Spare parts	240 884	0%	100%	0	240 884
Other costs in the production and provision of services	375 910	0%	100%	0	375 910
Total:	41 281 978			1 748 351	39 533 628
TOTAL	41 281 978			1 748 351	39 533 628

Annualized EXPENSES EXCLUDING RAW



Annualized costs in response to raw materials



COST OF RAW MATERIAL AND EXPENSES

ANNEX 10a

Naming of expenditures	Unit cost per year	annual demand	Annual cost at %
Raw materials	37 590 961,27	1	100%
TOTAL COST OF RAW MATERIAL AT FULL CAPACITY PER YEAR			37 590 961,27

ANNUAL COST OF SPARE PARTS

Spare parts	at %
Of the cost of all the equipment	1,50%

The cost of other production costs ANNUALY

Other operating expenses	at %
From raw material cost	1,00%

COST OF PRODUCTION AND SERVICE PROVISION

ANNEX 10b

\$ US	By year							Total:
	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	7 YEAR	
Cost price:	8 821 302	13 869 243	18 472 704	23 354 142	33 013 957	43 261 491	49 349 927	190 142 767
Local raw material costs	6 822 937	11 638 162	16 014 110	20 658 202	29 846 971	39 602 666	45 411 057	169 994 106
utility costs	150 440	239 200	329 139	424 589	613 446	813 956	933 336	3 504 106
Salary of production and social benefits. fear.	110 689	187 618	258 162	333 029	481 161	638 431	732 068	2 741 158
Depreciation	1 603 177	1 603 177	1 603 177	1 603 177	1 603 177	1 603 177	1 603 177	11 222 242
Maintenance and repair of assets (0.1% of equipment cost)	4 045	6 068	8 091	10 114	14 159	18 204	20 227	80 909
The cost of creating working conditions (5%)	6 654	9 980	13 307	16 634	23 287	29 941	33 268	133 070
Spare parts	48 177	72 265	96 354	120 442	168 619	216 796	240 884	963 537
Other costs in the production and provision of services	75 182	112 773	150 364	187 955	263 137	338 319	375 910	1 503 638
The cost of production and services: In manufacturing and services rendered	8 821 302	13 869 243	18 472 704	23 354 142	33 013 957	43 261 491	49 349 927	190 142 767
period costs:	259 141	303 535	352 365	406 014	509 600	623 608	699 135	3 153 399
Salary administration and social benefits. fear.	126 453	130 500	134 676	138 986	143 433	148 023	152 760	974 831
Distribution costs	11 886	18 795	26 411	34 794	51 341	69 574	81 474	294 275
Transport costs	59 429	93 976	132 053	173 970	256 707	347 870	407 370	1 471 376
Other operating expenses	1 189	1 880	2 641	3 479	5 134	6 957	8 147	29 428
Total taxes	60 184	58 384	56 584	54 784	52 984	51 184	49 384	383 489
Land tax	170	170	170	170	170	170	170	1 187
Property tax	60 000	58 200	56 400	54 600	52 800	51 000	49 200	382 200
water tax * (surface) **	13	13	13	13	13	13	13	88
water tax * (underground) **	2	2	2	2	2	2	2	14
OPERATING COSTS	9 080 443	14 172 778	18 825 070	23 760 156	33 523 557	43 885 099	50 049 063	193 296 166
TOTAL COST OF SERVICES RENDERED AND PRODUCTION	9 080 443	14 172 778	18 825 070	23 760 156	33 523 557	43 885 099	50 049 063	193 296 166

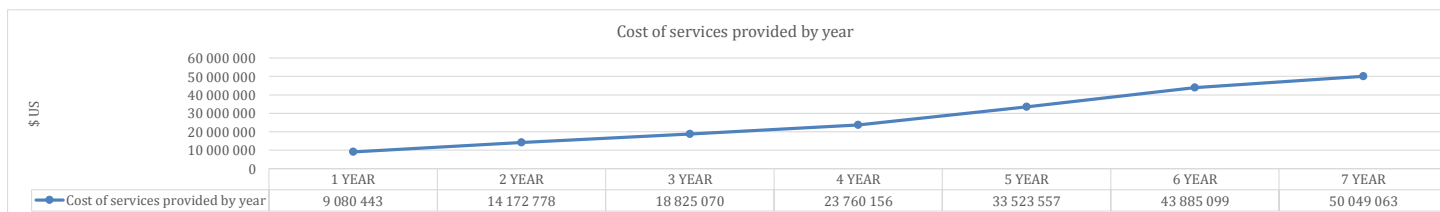
Distribution costs	0,1%	of the gross sales volume
Transport costs	0,5%	of the gross sales volume
Other operating expenses	0,01%	of the gross sales volume
Taxes, including:		
Land tax	503 250	UZS per 1 hectare.
Property tax	2,0%	of the cadastral value
water tax * (surface) **	88,4%	From the volume of water consumed
water tax * (underground) **	11,6%	From the volume of water consumed
VAT	20,0%	of value added
Tax on profits	12,0%	of the profits

Annual price increases Index:

name of expenses	index%
wages	13,0%
Raw materials and supplies	3,2%
energy resources	6,0%

* According to the State Unitary Enterprise "Suvsoz" the percentage of surface water and groundwater for the calculation of tax for the use of water resources for 2019 is as follows: **surface water - 88.4%; groundwater - 11.6%.**

** According to the tax rate for the use of water resources defined in Annex N 14 to the Resolution of the President of the Republic of Uzbekistan from 12.26.2018, N PP-4086

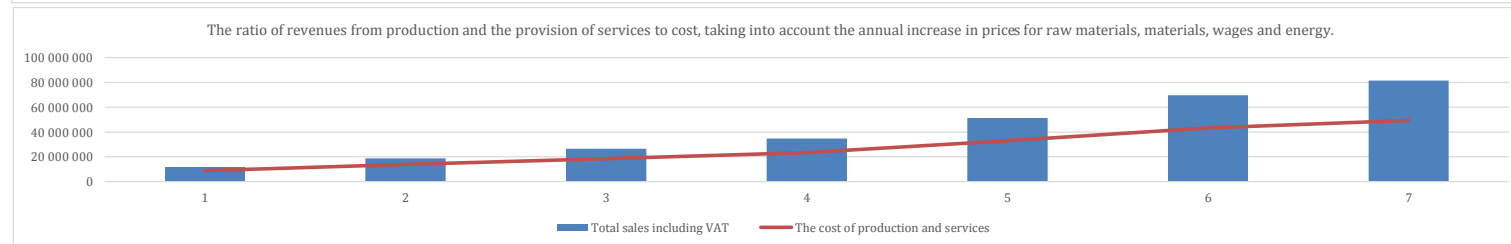
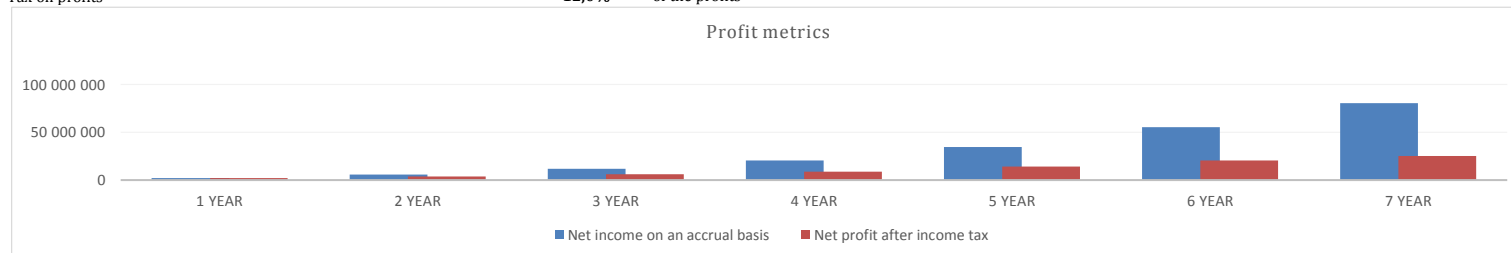


\$ US	By year							
	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	7 YEAR	Total:
Total sales including VAT	11 885 871	18 795 256	26 410 694	34 794 092	51 341 436	69 573 959	81 473 988	294 275 297
VAT	751 227	1 187 884	1 669 203	2 199 060	3 244 858	4 397 161	5 149 276	18 598 669
Offset of VAT on the acquisition of raw materials	442 711	664 243	885 599	1 106 985	1 549 842	1 992 729	2 214 116	8 856 224
Total sales	11 577 356	18 271 614	25 627 090	33 702 018	49 646 421	67 169 527	78 538 827	284 532 853
The cost of production and services	8 821 302	13 869 243	18 472 704	23 354 142	33 013 957	43 261 491	49 349 927	190 142 767
Gross profit	2 756 054	4 402 371	7 154 386	10 347 875	16 632 463	23 908 036	29 188 900	94 390 086
period costs	198 957	245 151	295 781	351 230	456 616	572 424	649 751	2 769 910
Operating profit	2 557 097	4 157 220	6 858 605	9 996 646	16 175 847	23 335 612	28 539 149	91 620 176
Profit before tax	2 557 097	4 157 220	6 858 605	9 996 646	16 175 847	23 335 612	28 539 149	91 620 176
Total taxes	60 184	58 384	56 584	54 784	52 984	51 184	49 384	383 489
Profit before income tax	2 496 913	4 098 836	6 802 021	9 941 861	16 122 863	23 284 428	28 489 765	91 236 687
Income tax 12%	299 630	491 860	816 242	1 193 023	1 934 744	2 794 131	3 418 772	10 948 402
Net profit after income tax	2 197 283	3 606 976	5 985 778	8 748 838	14 188 120	20 490 297	25 070 993	80 288 284
Net profit	2 197 283	3 606 976	5 985 778	8 748 838	14 188 120	20 490 297	25 070 993	80 288 284
Net income on an accrual basis	2 197 283	5 804 259	11 790 037	20 538 875	34 726 995	55 217 291	80 288 284	

Coefficients profitability (%)	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	7 YEAR
Gross profit / total sales	23%	23%	27%	30%	32%	34%	36%
Net income / total sales	18%	19%	23%	25%	28%	29%	31%

Taxes, including:

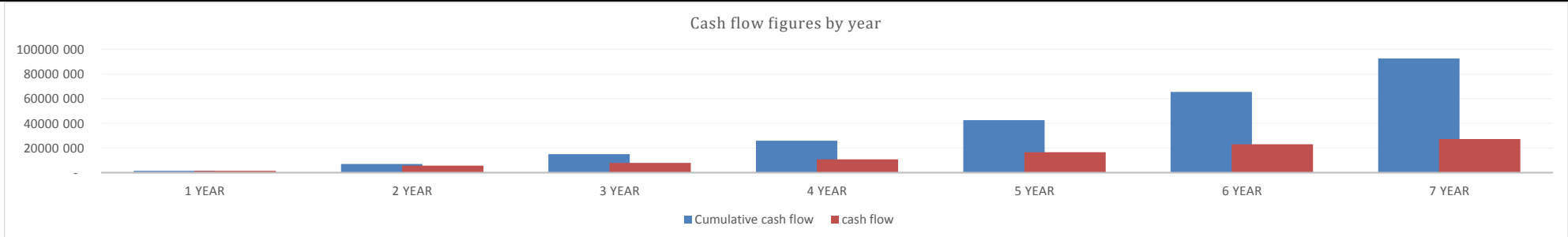
VAT	20,0%	of value added
Tax on profits	12,0%	of the profits



Cash Flow

\$ US	By year								
	0 Year	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	7 YEAR	Total:
Total sales including VAT	-	11 885 871	18 795 256	26 410 694	34 794 092	51 341 436	69 573 959	81 473 988	294 275 297
VAT		751 227	1 187 884	1 669 203	2 199 060	3 244 858	4 397 161	5 149 276	18 598 669
Offset of VAT on the acquisition of raw materials		442 711	664 243	885 599	1 106 985	1 549 842	1 992 729	2 214 116	8 856 224
Total sales		11 577 356	18 271 614	25 627 090	33 702 018	49 646 421	67 169 527	78 538 827	284 532 853
Changes in Working Capital	3 132 580	(2 351 788)	436 405	399 735	423 301	837 705	887 550	525 708	1 158 617
Cash from services	(3 132 580)	9 225 568	18 708 020	26 026 825	34 125 319	50 484 126	68 057 077	79 064 535	285 691 470
The cost price of production and rendered services (without including depreciation)	-	7 218 124	12 266 066	16 869 527	21 750 965	31 410 780	41 658 313	47 746 750	178 920 525
Gross Cash Receipts	(3 132 580)	2 007 443	6 441 954	9 157 299	12 374 354	19 073 346	26 398 764	31 317 785	106 770 945
period costs	-	259 141	303 535	352 365	406 014	509 600	623 608	699 135	3 153 399
Income tax 12%	-	299 630	491 860	816 242	1 193 023	1 934 744	2 794 131	3 418 772	10 948 402
Operating cash-flow (A)	(3 132 580)	1 448 672	5 646 559	7 988 691	10 775 317	16 629 002	22 981 024	27 199 878	92 669 143
Equity	-								
Investments in fixed assets	25 627 732								
The initial financial outlay	-								
Net cash	25 627 732	1 448 672	5 646 559	7 988 691	10 775 317	16 629 002	22 981 024	27 199 878	92 669 143
financial need	28 760 312								
cash flow		1 448 672	5 646 559	7 988 691	10 775 317	16 629 002	22 981 024	27 199 878	92 669 143
Cumulative cash flow	-	1 448 672	7 095 231	15 083 922	25 859 238	42 488 241	65 469 265	92 669 143	

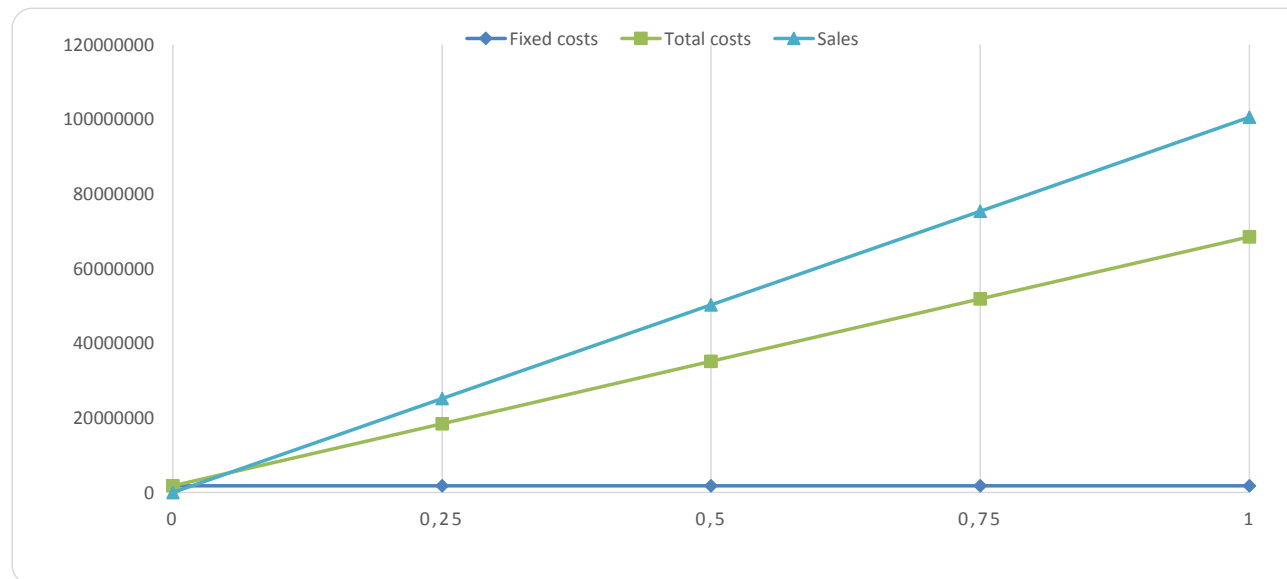
Cash flow figures by year



Analysis of break-even point

APPENDIX 13

Name	Indicators
Total revenues at full power	64 850 360
Fixed costs at full power	1 748 351
Variable costs at full power	39 533 628
BREAKEVEN POINT	6,9%



BASIS FOR CALCULATION OF WORKING CAPITAL

APPENDIX 14

	days cover	turnover rate (360 / coating Days)	
The period from the sale of	30 days	12 days	Accounts receivable = Total sales / turnover ratio
Stocks of raw materials in stock and work in progress:	30 days	12 days	Stocks of raw materials = Raw materials / turnover ratio
Stocks of finished goods - sales	30 days	12 days	Finished goods inventory = Cost of production / turnover ratio
stocks of spare parts	180 days	2 days	Stocks of spare parts = parts / turnover ratio
The period of payment to suppliers of raw materials	30 days	12 days	Accounts Payable = Raw materials / turnover ratio

CALCULATION OF NET WORKING CAPITAL

	By year							
	0 months	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	7 YEAR
Accounts payable	-	-	-	-	-	-	-	-
stocks of raw materials	3 132 580	568 578	969 847	1 334 509	1 721 517	2 487 248	3 300 222	3 784 255
Stocks of finished products	-	756 704	1 181 065	1 568 756	1 980 013	2 793 630	3 657 092	4 170 755
stocks of spare parts	-	24 088	36 133	48 177	60 221	84 309	108 398	120 442
TOTAL	3 132 580	1 349 370	2 187 044	2 951 442	3 761 751	5 365 187	7 065 712	8 075 452
Accounts Payable	3 132 580	568 578	969 847	1 334 509	1 721 517	2 487 248	3 300 222	3 784 255
Net Working Capital	3 132 580	780 792	1 217 197	1 616 933	2 040 234	2 877 939	3 765 489	4 291 197
Changes in Working Capital	3 132 580	(2 351 788)	436 405	399 735	423 301	837 705	887 550	525 708

Calculation of NPV and IRR

APPENDIX 15

Period	cash flow	The discount rate	NPV	GNI
0 year	(25 627 732)	20,0%		
1 year	1 448 672	20,0%	(24 420 505)	
2 year	5 646 559	20,0%	(20 499 284)	-50%
3 year	7 988 691	20,0%	(15 876 199)	-19%
4 year	10 775 317	20,0%	(10 679 769)	0%
5 year	16 629 002	20,0%	(3 996 946)	14%
6 year	22 981 024	20,0%	3 699 352	24%
7 year	27 199 878	20,0%	11 290 339	30%

calculation of ID (PI / yield index)

Period	initial costs	cash income	cash flow	Cash flow
0 year	\$ 25 627 732	\$ -	\$ -	\$ -
1 year	\$ -	\$ 11 885 871	\$ 10 437 199	\$ 1 448 672
2 year	\$ -	\$ 18 795 256	\$ 13 148 697	\$ 5 646 559
3 year	\$ -	\$ 26 410 694	\$ 18 422 004	\$ 7 988 691
4 year	\$ -	\$ 34 794 092	\$ 24 018 776	\$ 10 775 317
5 year	\$ -	\$ 51 341 436	\$ 34 712 434	\$ 16 629 002
6 year	\$ -	\$ 69 573 959	\$ 46 592 935	\$ 22 981 024
7 year	\$ -	\$ 81 473 988	\$ 54 274 110	\$ 27 199 878
NPV (NPV)				\$ 25 859 238
ID (PI)				101%

Calculation of the payback period of the project (PP / payback time)

Period	initial costs	cash income	Cash flow	Cash flow from an accrual basis
0 year	\$ 25 627 732	\$ -	\$ -	\$ -
1 year	\$ -	\$ -	\$ 1 448 672	\$ 1 448 672
2 year	\$ -	\$ -	\$ 5 646 559	\$ 7 095 231
3 year	\$ -	\$ -	\$ 7 988 691	\$ 15 083 922
4 year	\$ -	\$ -	\$ 10 775 317	\$ 25 859 238
5 year	\$ -	\$ -	\$ 16 629 002	\$ 42 488 241
6 year	\$ -	\$ -	\$ 22 981 024	\$ 65 469 265
7 year	\$ -	\$ -	\$ 27 199 878	\$ 92 669 143
(PP / payback time)				4th YEAR

Discounted payback period (DPP / payback period based discount)

Period	initial costs	Cash flow	Discounted Cash Flow	Discounted cash flows on an accrual basis
0 year	\$ -	\$ -	\$ -	\$ -
1 year	\$ -	\$ 1 448 672	\$ 1 207 227	\$ 1 207 227
2 year	\$ -	\$ 5 646 559	\$ 4 705 466	\$ 5 912 692
3 year	\$ -	\$ 7 988 691	\$ 6 657 242	\$ 12 569 935
4 year	\$ -	\$ 10 775 317	\$ 8 979 431	\$ 21 549 365
5 year	\$ -	\$ 16 629 002	\$ 13 857 502	\$ 35 406 867
6 year	\$ -	\$ 22 981 024	\$ 19 150 854	\$ 54 557 721
7 year	\$ -	\$ 27 199 878	\$ 22 666 565	\$ 77 224 286
(DPP / payback period based discount)				4th YEAR

The calculation of the profitability of the investment project (ARR, ROI / profitability factor)

Period	initial costs	cash income	Cash flow	The average net profit in 7 years
0 year	\$ 25 627 732	\$ -	\$ -	\$ -
1 year	\$ -	\$ -	\$ 1 448 672	\$ -
2 year	\$ -	\$ -	\$ 5 646 559	\$ -
3 year	\$ -	\$ -	\$ 7 988 691	\$ -
4 year	\$ -	\$ -	\$ 10 775 317	\$ -
5 year	\$ -	\$ -	\$ 16 629 002	\$ -
6 year	\$ -	\$ -	\$ 22 981 024	\$ -
7 year	\$ -	\$ -	\$ 27 199 878	\$ -
in total				\$ 92 669 143 \$ 6 464 810
(DPP / payback period based discount)				25%

The average cost per unit of output

	The electric motor over 0.03 to 0.18 kW	The electric motor over 0.18 to 0.6 kW	The electric motor over 5.5 to 10 kW	The electric motor over 10 to 15 kW	The electric motor over 75 to 100 kW	The electric motor over 100 to 125 kW	The electric motor over 250 to 320 kW
NAMING OF EXPENDITURES	cost Cost per unit of finished product, (US \$)	cost Cost per unit of finished product, (US \$)	cost Cost per unit of finished product, (US \$)	cost Cost per unit of finished product, (US \$)	cost Cost per unit of finished product, (US \$)	cost Cost per unit of finished product, (US \$)	cost Cost per unit of finished product, (US \$)
Volume of production	3 388 000,00	1 114 754,83	7 357,38	7 357,38	7 357,38	2 229,51	2 229,51
The main costs							
Raw materials							
import	2,03	18,48	82,50	106,81	332,43	464,64	1 573,29
local	0,11	2,92	5,70	12,49	29,75	85,06	293,19
Total raw material costs	2,14	21,40	88,21	119,30	362,18	549,69	1 866,48
Additional expenses							
Spare parts	0,010157	0,030870	4,677211	4,677211	4,677211	15,434797	15,434797
W / board production workers with deductions	0,023336	0,070925	10,746157	10,746157	10,746157	35,462317	35,462317
Energy costs and infrastructure	0,031717	0,096395	14,605362	14,605362	14,605362	48,197695	48,197695
Other production costs	0,015850	0,048173	7,298979	7,298979	7,298979	24,086629	24,086629
Depreciation	0,067599	0,205449	31,128646	31,128646	31,128646	102,724532	102,724532
Total additional costs	0,15	0,45	68,46	68,46	68,46	225,91	225,91
actual manufacturing cost	2,28	21,86	156,66	187,76	430,64	775,60	2 092,39
period expenses							
W / administration fee with deductions	0,004719	0,014341	2,172855	2,172855	2,172855	7,170423	7,170423
Total expenses for the period	0,004719	0,014341	2,172855	2,172855	2,172855	7,170423	7,170423
Total unit cost	2,29	21,87	158,84	189,93	432,81	782,77	2 099,56
rate of return	1,22	13,07	5,48	11,52	38,01	28,55	614,57
The average selling price	3,51	34,94	164,32	201,45	470,82	811,32	2 714,12
localization level of 1 year	11%	15%	47%	43%	23%	40%	25%

RISKS

APPENDIX 16

stage	types of risk	S (indicator of the significance or severity failure)	O (index of probability or frequency of occurrence of a fault causes)	D (index of probability of a defect or error)	An RPN (risk priority number)	Σ
Receipt of raw materials to the factory	technological risks	8	5	3	120	557
	risks of breakdowns	6	5	4	120	
	emergency risks	1	5	2	10	
	risks of power outages	3	5	8	120	
	prolongation of maintenance risks	2	5	2	20	
	emergency risks ancillary systems	1	4	3	12	
	risks of failure in providing services	4	6	5	120	
risks of disruptions in information systems	1	7	5	35		
The production process	technological risks	8	5	6	240	444
	risks of breakdowns	4	5	4	80	
	emergency risks	3	4	4	48	
	risks of power outages	4	5	2	40	
	risks of disruptions in information systems	3	4	3	36	
Storage and transport	technological risks	8	5	6	240	601
	risks of breakdowns	7	6	5	210	
	emergency risks	3	5	5	75	
	risks of failure in providing services	4	4	4	64	
	risks of disruptions in information systems	2	2	3	12	

OUTCOME INDICATORS OF THE PROJECT

APPENDIX 17

TOTAL INCOME INDICATORS PROJECT

\$ US	By year							Total:
	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	7 YEAR	
Proceeds from sale of finished products and services	11 885 871	18 795 256	26 410 694	34 794 092	51 341 436	69 573 959	81 473 988	294 275 297
The cost price of the production and provision of services	9 688 588	15 188 280	20 424 916	26 045 254	37 153 317	49 083 663	56 402 995	213 987 013
Net profit	2 197 283	3 606 976	5 985 778	8 748 838	14 188 120	20 490 297	25 070 993	80 288 284
accumulated profit	2 197 283	5 804 259	11 790 037	20 538 875	34 726 995	55 217 291	80 288 284	

FINAL PERFORMANCE CASH FLOW

\$ US	By year							Total:
	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	7 YEAR	
Proceeds from sale of finished products and services	11 885 871	18 795 256	26 410 694	34 794 092	51 341 436	69 573 959	81 473 988	294 275 297
The cost price of the production and provision of services	10 437 199	13 148 697	18 422 004	24 018 776	34 712 434	46 592 935	54 274 110	201 606 154
cash flow	1 448 672	5 646 559	7 988 691	10 775 317	16 629 002	22 981 024	27 199 878	92 669 143
Cumulative cash flow	1 448 672	7 095 231	15 083 922	25 859 238	42 488 241	65 469 265	92 669 143	

Totals for PROJECT COSTS In monetary terms,

\$ US	By year							Total:
	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	7 YEAR	
the payment of taxes to the state budget	1 111 040	1 738 128	2 542 029	3 446 868	5 232 586	7 242 477	8 617 432	29 930 560