APPROVING:
General manager

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Feasibility study

to expand the production of energy-saving LED SMD lamps by purchasing 5 assembly lines and raw materials

JSC Mailuu-Suui Lamp Factory

Description-LED products based on SMD LEDs are the industrial basis of LED production worldwide, despite the development of innovative lighting systems based on COB LEDs. Lower production costs are a consequence of the maturity of SMD technologies and the development of the entire production cycle. Therefore, SMD products are one of the most popular on the market of LED products, although not new in the field of rapidly developing LED lighting, will remain in demand among a number of categories of consumers for many more years.

The restriction of traditional incandescent lamps and the introduction of energy-efficient LED systems under energy-saving programs in many countries of the world, the market situation in the field of lighting products imposes on lighting companies in the industry the responsibility to switch production to the rapid release of LED products.

The current stage of industrial production development is characterized by an increase in the share of knowledge-intensive products, and consequently by the intensification of complex automation and mechanization, increased labor productivity, and savings in time, labor, and other resources. Only compliance with the above conditions makes it possible to successfully compete in the LED market and extract maximum profit.

The goal of the project **is** to expand the production of LED products from the SMD series (LED lamp in plastic design) and on this basis increase: the range of products offered; the volume of products sold, make a profit, and also partially transfer the assembly shop's labor staff to new production facilities.

To lay a modern foundation for the development of the enterprise in the direction of production of LED products.

The project aims to purchase automated lines for the assembly and manufacture of SMD LED products, in the amount of 5 (five) units, as well as equipment for the production of basic components with a capacity of up to 10.0 million lamps per year.

Structurally, the SMD lamp is manufactured in a plastic fire-resistant housing with an integrated aluminum radiator, equipped with a light-scattering plastic diffuser cap, with an Edison E27 and E14 base for a classic lamp holder or chandelier. As a working electronic part, an aluminum LED module is mounted with SMD-LEDs located on the surface, which are mounted by an automatic surface mount (SMD-mounting) on an aluminum board with a substrate. The inductive-capacitive (pulse) driver circuit is made in the same place on the aluminum board of the LED module, and is not displayed separately in the driver block as in "outdated" designs. A new design solution of Chinese manufacturers allows you to reduce the cost of materials and installation of electronic components, as well as the entire assembly of LED lamps.

The equipment of the purchased assembly line will be located at the LED lamp assembly site to optimize production, energy resources and personnel involved. The placement of the assembly line with the main overall dimensions is shown in Figure 1 below.

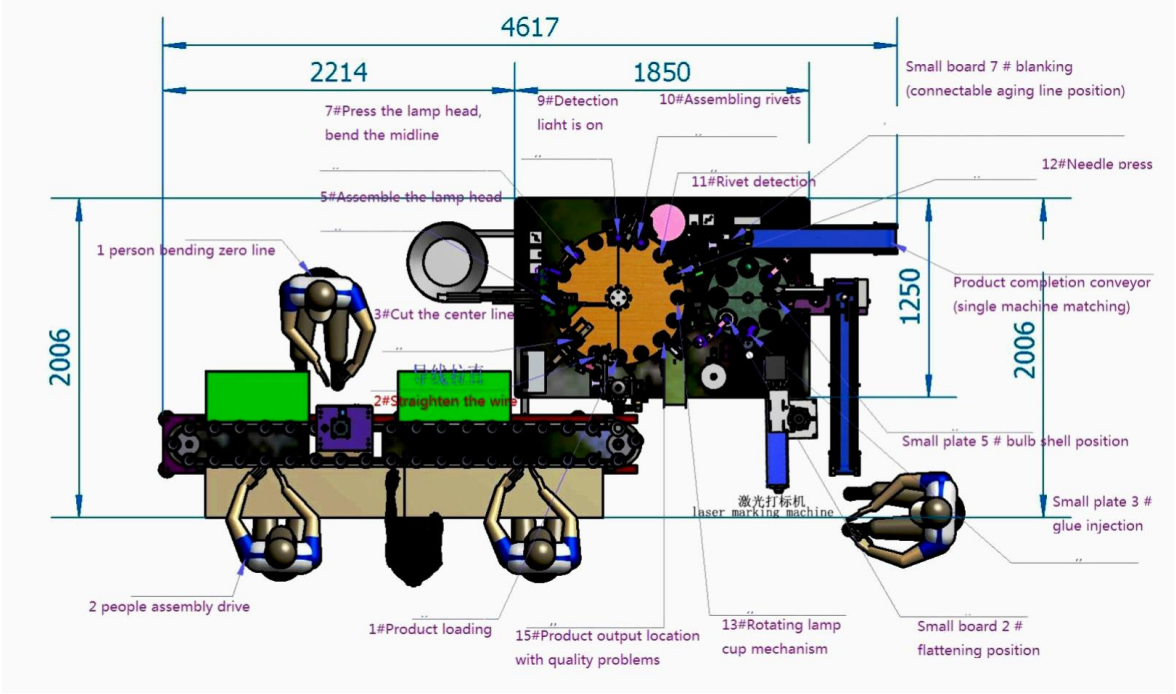

Figure 1-Layout of the assembly line for LED SMD lamps in a plastic form factor.

1. List of purchased equipment and accessories for the production of SMD lamps

No. p / p	Name	Item no. Name Num-ber of units	Price per 1 unit som	Sum, som
1	**Blow molding machine**	1	6562500	6562500
1.1	Set of molds A60 10W	1	1925000	1925000
1.2	Mold set A65 12W	1	2012500	2012500
1.3	Mold set A70 10W	1	2100000	2100000
1.4	Mold set B35 8W	1	1837500	1837500
2	**Injection machine**	1	6125000	6125000
2.1	Mold set A60 10W	1	1575000	1575000
2.2	A65 12W Mold set	1	1662500	1662500
2.3	A70 10W Mold Set	1	1750000	1750000
2.4	B35 8W Mold Set	1	1487500	1487500
3	**AI Cup Punching equipment**	1	4200000	4200000
3.1	A60 10W Mold Set	1	1575000	1575000
3.2	A65 12W Mold Set	1	1662500	1662500
3.3	Set of molds A70 10W	1	1750000	1750000
3.4	Set of molds B35 8W	1	1487500	1487500
4	**Equipment for stamping the connection AI of the base and RVT**	1	3762500	3762500
5	**Set of molds of the base E27, E14**	2	1575000	1575000
6	**Automatic assembly line for lamps A60, A65, A70, B35**	5	4550000	22750000
7	**Compressor station complex**	6	358750	2150000
8	**Chemical cleaning line alum. cups**	1	2450000	2450000
9	**Automatic packaging machine**	6	2502500	15015000
	Total SMD lamp production line			**84750000**
84750 000 10	**Raw materials for 6 months of operation**			**210000000**

11	**Transportation costs for delivery (from China to Kyrgyzstan)**			**4582500**
	Total costs:			**300000000**

Key performance indicators for a single production assembly line:

- Line capacity 1200 -1300 units/hour;
- Energy resources – electric power) - 300 kW
- Coefficient of Yield of Usable products (KVG) - 0.98;
– Equipment Utilization Rate (KIO) - 0.95
- Number of service personnel – 10 people

2. Projected production plan for SMD lamps

No n/a	. Name	Units . ed.	of Unit 2025 2026	2026.	2027	2028 n / a ed.
1	SMD lamp production plan	thous and units	1 000,0	1,000,0 9 900,0	9 900,0	9 900,0

Note: The expansion of the production of SMD lamps is planned from 2026.

3. Calculation and forecast of profit of one SMD lamp

produced Name	
Cost of 1 thousand units, som	40,000,0
Profitability in%,	10,0%
Profit for 1 thousand units, som	4,000,0
Selling price for 1 thousand units without VAT, som	44,000,0
Selling price for 1 thousand units with VAT 12% and NSP 1% , som	50 000,00

Note: The price of SMD lamps varies from 50 to 80 som, depending on the power.

4. Forecast indicators for the project development of production of SMD lamps

Unit name	2026 ed.	2026.	2027 2028 ed.	2028.
Production plan for SMD lamps	thousand units	9 900,0	9 900,0	9 900,0
Income				
Commercial products for SMD lamps	thousand SOM	495 000,0	495 000,0	495 000,0
Expense				
Cost of commercial products for SMD lamps	thousand SOM	435 600,0	435 600,0	435 600,0
Profit	thousand SOM	59 400,0	59 400,0	59 400,0
Income tax 10%	thousand SOM	5 940,0	5 940,0	5 940,0

Net profit	thousand SOM	53 460.0	53 460.0	53 460.0

Note: The payback period of the project will be 6 years.

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