Ministry of Investment,
industry and trade
of the Republic of Uzbekistan

Investment proposal:
Production of steel ropes

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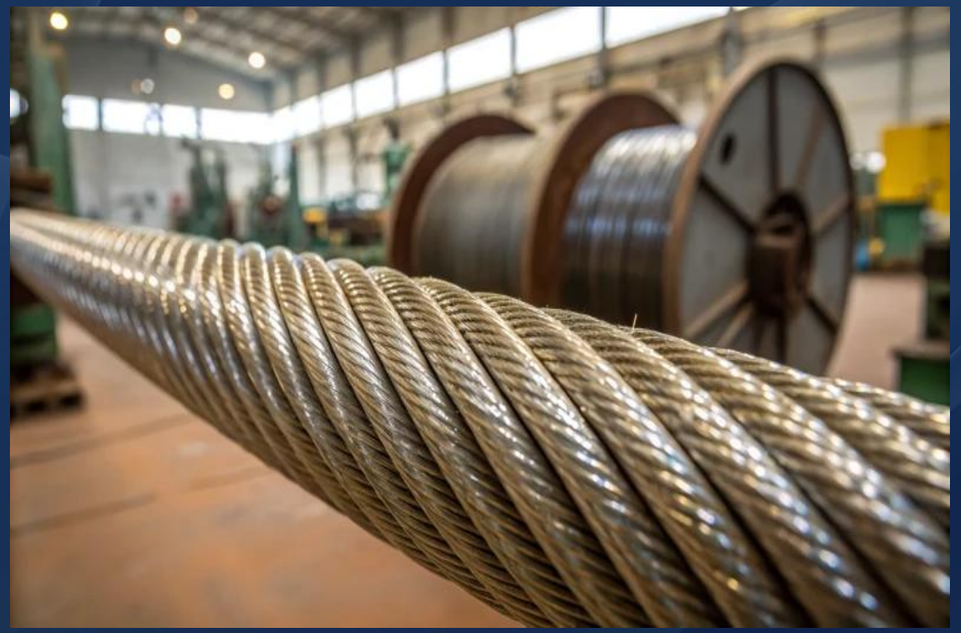
Production of steel ropes



Economic impact:

- Substitution of imported wire ropes and strengthening of domestic industrial base
- Export potential to neighboring countries (Central Asia, CIS)
- Development of local supply chains (steel, logistics, maintenance)

Social impact:

- Creation of 500–700 new jobs (engineers, operators, technicians, logistics staff)
- Development of industrial skills and technological capacity
- Contribution to industrial diversification and sustainable development goals

Location of the project

Tashkent region	
Size	15 250 km²
Population	3,1 million

Project description:

The project involves the establishment of a modern industrial facility for the production of steel wire ropes in the Tashkent region. The plant will manufacture a wide range of products, including general-purpose wire ropes, marine and corrosion-resistant ropes, as well as special and stainless-steel ropes, fully compliant with international standards such as ISO, EN, and ASTM.

The project is aimed at import substitution, strengthening the domestic industrial base, and developing export potential to neighboring markets in Central Asia and the CIS. The production facility will be based on a full technological cycle, covering raw material preparation, wire drawing, heat treatment, surface coating, stranding and closing, preforming and compaction, quality control, and final packaging.

Economic indicators:

- **Financing:** 100 million USD
- **Area:** 8 hectares
- **Revenue year 1:** $70 million/year
- **ROI:** 30 %
- **NPV:** ~ $30 million
- **IRR:** ~20%

Production indicators:

- **General-purpose wire ropes:** 50 000 tons
- **Marine corrosion-resistant ropes:** *(for export)* 20 000 tons
- **Special & stainless-steel ropes:** 10 000 tons

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Processing chain & product yield

Key production stages

Raw material preparation
- High-quality carbon or alloy steel wire rods are received, tested for chemical composition, and cleaned to remove surface impurities such as scale, rust, and oil.

Wire drawing
- The steel rods are drawn through a series of dies to achieve the required wire diameters. This process enhances the mechanical strength and surface quality of the wire.

Heat treatment (annealing)
- The drawn wires are heat-treated in controlled furnaces to relieve internal stresses and improve ductility, ensuring optimal balance between strength and flexibility.

Surface coating (galvanizing or lubrication)
- Depending on the application, wires are coated with zinc (galvanized) or lubricants to enhance corrosion resistance and reduce friction during stranding.

Stranding
- Individual wires are twisted together to form strands. The number and configuration of wires per strand depend on the design specifications of the rope (e.g., 6×19, 6×36).

Closing (rope making)
- Several strands are laid helically around a core (fiber or steel) to form the final rope. Tension and lay direction are controlled to ensure dimensional accuracy and performance consistency.

Preforming and compaction
- In modern production lines, ropes undergo preforming and compaction to increase breaking load, reduce elongation, and enhance fatigue resistance.

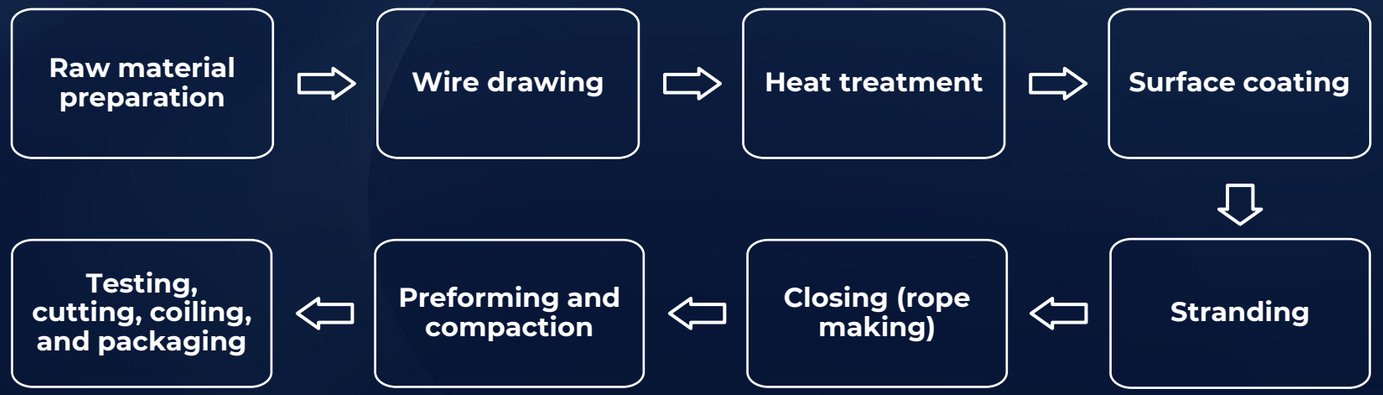
Testing and quality control
- Finished ropes are subjected to mechanical and non-destructive testing — including tensile, bending, and fatigue tests — in accordance with ISO, EN, or ASTM standards.

Cutting, coiling, and packaging
- Ropes are cut into standard or customized lengths, coiled, labeled, and packaged for storage or shipment. Proper packaging ensures protection against mechanical damage and corrosion.

Product yield breakdown

(from 1 ton input raw material)

Product	Yield	Key composition	Final product composition	Next process
General-purpose wire ropes	850–900 kg	High-carbon steel wire rod (C: 0.6–0.8%), drawing lubricants	Standard steel ropes (types 6×19, 6×36) with high tensile strength (1,770–1,960 MPa)	Testing → coiling → packaging
Marine / corrosion-resistant ropes	820–880 kg	Galvanized or aluminum-coated wire rod, zinc bath, lubricants	Corrosion-resistant ropes with zinc/aluminum coating, improved fatigue resistance	Greasing → spooling → packaging
Special & stainless-steel ropes	800–850 kg	Stainless steel wire (AISI 304, 316)	AISI-grade ropes with superior corrosion resistance, used in offshore, cranes, elevators	Greasing → spooling → packaging
Process losses & by-products	100–150 kg	Scale, zinc ash, metal dust, waste lubricants	Recyclable steel scrap, used lubricants	Waste recovery / reuse / disposal



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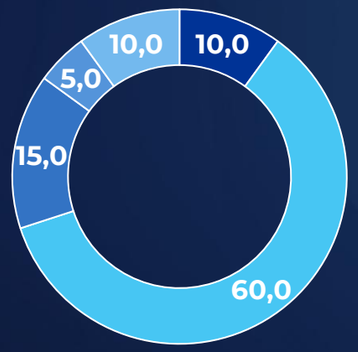
Project expenses

Initial Investment (CAPEX) *(mln dollar)*

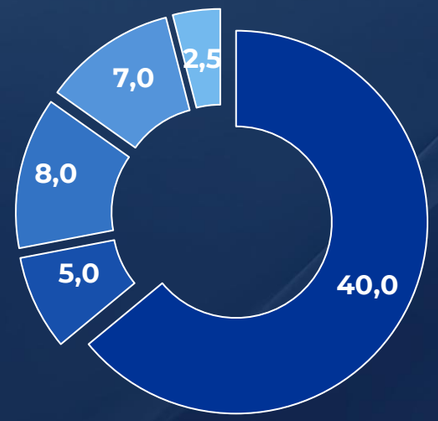
Total CAPEX: **$100 mln**



- Land and construction
- Technological equipments
- Infrastructura and transportation
- R&D laboratory & quality control
- Other (licenses, project management, contingencies)

Operating Costs (OPEX) *(mln dollar)*

Total OPEX: **$62,5 mln**



- Raw materials
- Labor
- Utilities
- Marketing, logistics & maintenance
- Miscellaneous (R&D, admin, ESG)

This financial overview outlines a comprehensive cost structure and strong profitability of the proposed steel ropes products project. The breakdown includes both initial capital investment (CAPEX) and annual operating costs (OPEX), alongside projected revenue and profit estimates.

Product	Capacity	Revenue year 1 (million USD)
General-purpose wire ropes	50 000 tons	35,0
Marine / corrosion-resistant ropes	20 000 tons	23,0
Special & stainless-steel ropes	10 000 tons	12,0
TOTAL		**70,0**

Annual EBITDA:
= $70mln - $62,5mln - $1,0 mln
= **$6,5mln**

The project's strong profitability forecast is underpinned by efficient operations and high market demand, positioning it as a highly attractive investment.

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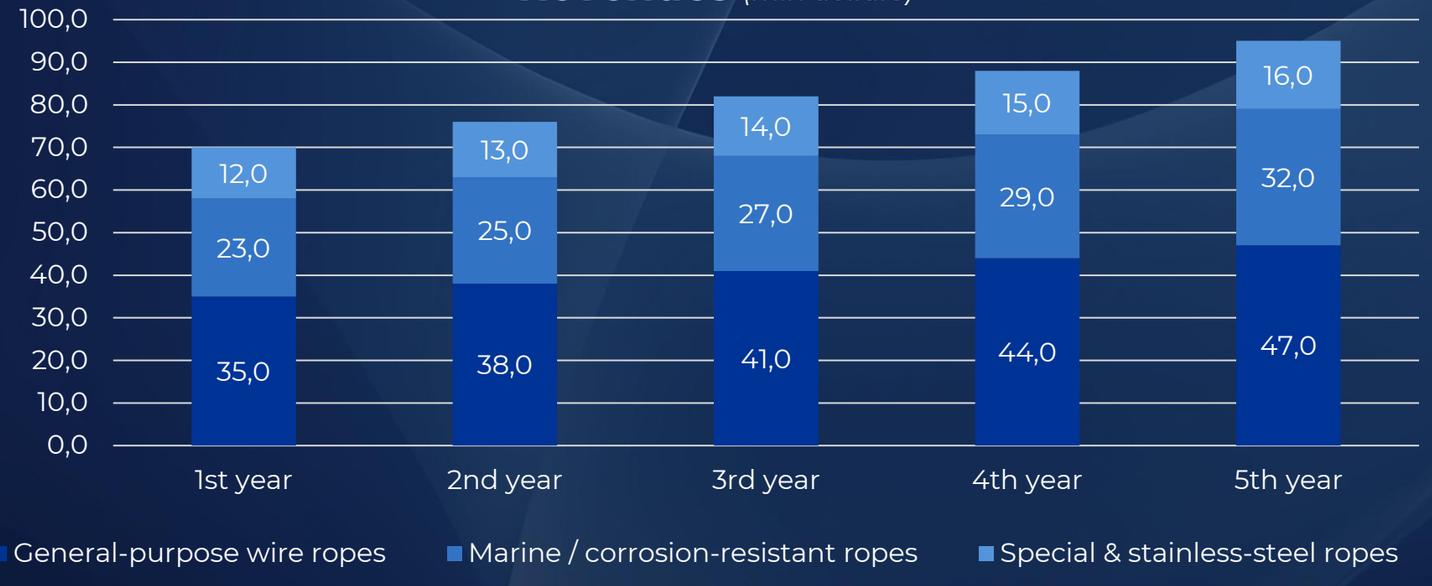
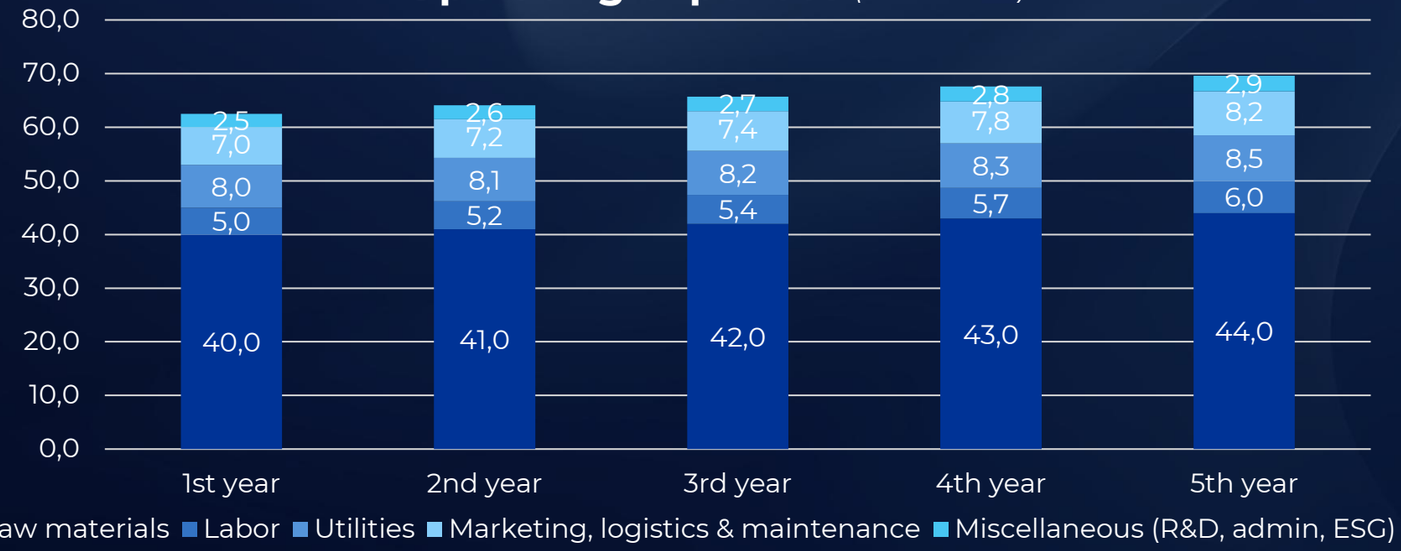
Financial indicators
(5-year projection)

Revenues *(mln dollars)*



Operating expenses *(mln dollars)*



Total 10-year cash flow:
$250M after full CAPEX recovery

EBITDA growth:
5% CAGR, reaching $95M by Year 5.

NPV (12% discount rate):
NPV= **$30 million** *(Highly favorable!)*

IRR (Internal rate of return): ≈ **20%**

Payback period (PP):
= **4,5 years**

Profitability index (PI):
=(NPV+CAPEX)/CAPEX=($30M+$100M)/$100M= **1,3**