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

Investment proposal:
Iron ore concentrate mining and processing at the Chigatoy deposit

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Iron ore concentrate mining and processing

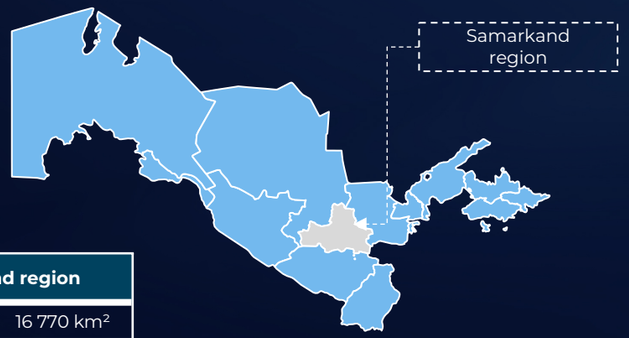
Economic impact:

- Import substitution of iron ore concentrate for domestic steel and metal producers.
- Export potential to neighboring countries (Central Asia, CIS).
- Strengthening of local supply chains (mining services, transport, fuel, maintenance).

Social impact:

- Creation of ~120 new jobs (geologists, mining engineers, machine operators, truck drivers, lab & logistics staff).
- Development of local transport and utility infrastructure in the region.
- Increase in tax revenues and support of regional industrial growth.

Location of the project



Samarkand region	
Size	16 770 km²
Population	4,3 million

Project description:
The project involves the development of a small iron ore deposit with reserves of 580 thsd tons and construction of a processing line to produce 62% Fe iron ore concentrate.
Operations include open-pit mining, primary and secondary crushing, magnetic separation, drying, and storage. The project uses energy-efficient equipment and meets modern environmental standards.
The project includes construction of supporting infrastructure such as internal haul roads, a diesel storage and distribution system, a water supply and treatment network, a power distribution substation, and a quality control laboratory for continuous monitoring of Fe grade, mineralogical composition, moisture, and impurities.

Economic indicators:

Financing: 10,0 mln USD

Area: 509 hectares (open-pit + processing facility)

Revenue: $8,2 million/year

ROI: 39% *(5 years)*

NPV: ~3,9 million *(5 years)*

IRR: ~23%

Production indicators:

Iron ore concentrate:
40 thsd tons

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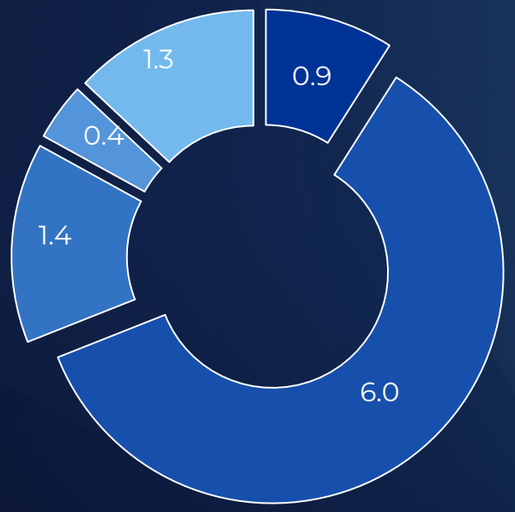
Project expenses

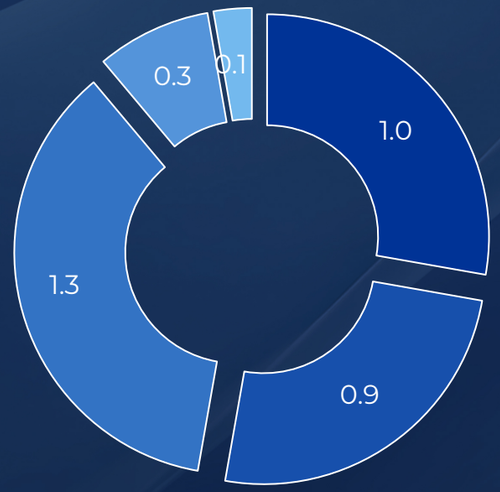
Initial Investment (CAPEX) *(mln dollar)*



Total CAPEX: **$10,0 mln**

- Open-pit development & construction
- Machinery & equipment
- Utilities & infrastructure
- Laboratory, assay facility & safety systems
- Licenses, FEED, engineering & contingencies

Operating Costs (OPEX) *(mln dollar)*



Total OPEX: **$3,6 mln**

- Raw materials
- Labor
- Utilities
- Marketing, Logistics & Maintenance
- Others

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

Revenue stream	**Volume** (tons/year)	**Annual revenue** (million USD)
Iron ore concentrate	40 000	7,2
Low-grade fines (by-product)	12 000	0,5
TOTAL	52 000	7,7

Annual EBITDA:
= $7,7mln - $3,6mln = **$4,1 mln**

The project demonstrates high profitability, strong market demand, and a diversified product base, positioning it as a highly attractive investment opportunity.

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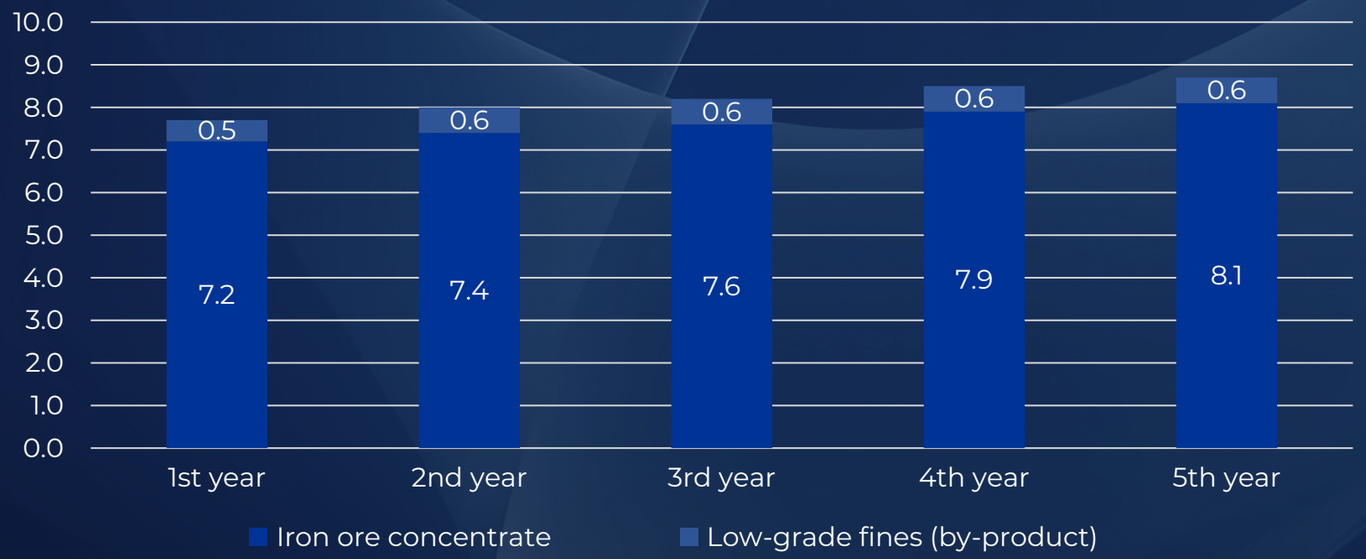
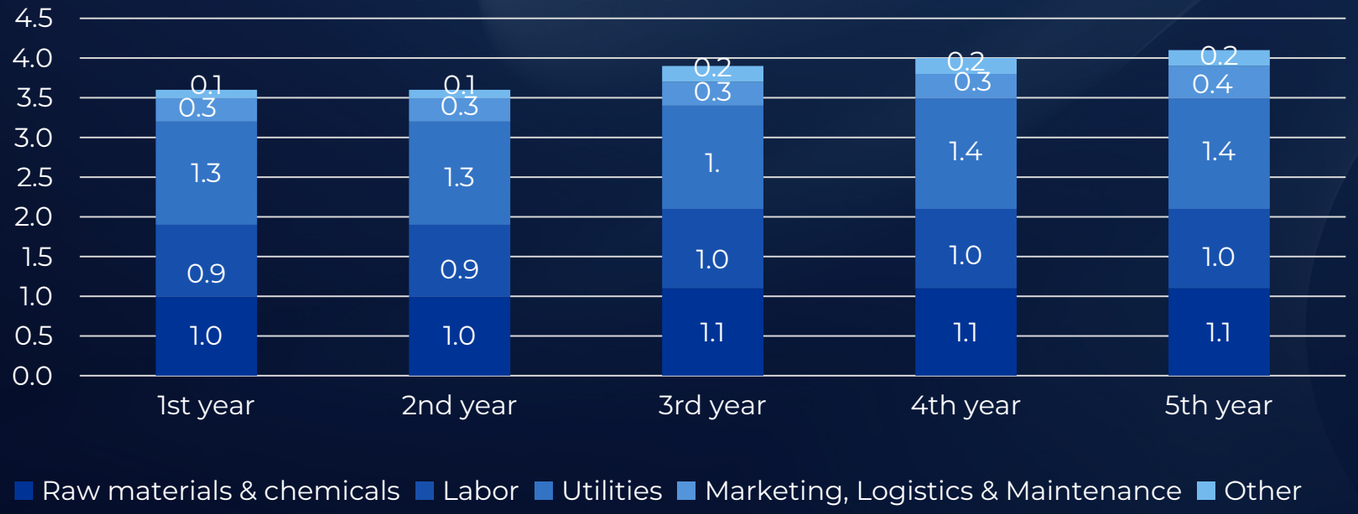
Financial indicators
(5-year projection)

Revenues *(mln dollars)*



Operating expenses *(mln dollars)*



Breakeven:
Break-even point at full capacity 40%.

EBITDA growth: 4,0% CAGR,
reaching $4,7 M by Year 5

Cash Flow:
$19,3 million by year 5

Return on investment (ROI): 39%

NPV (12% discount rate):
= **$3,9 million** *(highly favorable!)*

IRR (Internal rate of return): ≈**23 %**

Payback period (PP):
= **2,7 years**

Profitability index (PI): **1,39**

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Mining and production process

Process	Result	Process	Result
Mining	Run-of-mine (ROM) iron ore	Thickening & dewatering)	Moisture-controlled concentrate
Primary crushing	Crushed ore (50–150 mm)	Drying	Final concentrat
Secondary crushing and screening	Sized ore (5–50 mm)	Storage & stockpiling	Bulk concentrate ready for dispatch
Grinding	Pulp (ore + water)	Waste rock handling & dumping	Stabilized waste rock piles
Magnetic separation (LIMS)	Iron concentrate (Fe 60–62%) + tailings	Water treatment & recycling	Process water for reuse

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World market and global trends:

Iron ore production and usage highlights:

1. Global iron ore production reached ~2.7 billion tons in 2024, with Australia, Brazil, and China leading the market. Australia alone accounts for more than 35% of global supply, followed by Brazil (~20%) and China, which produces lower-grade domestic ore.
2. Global demand for high-grade iron ore (62–67% Fe) continues to rise due to the expansion of electric arc furnaces (EAF), stricter emissions standards, and the shift toward low-carbon steelmaking. High-grade concentrate reduces CO_2 emissions by 10–20% during steel production.
3. Total global iron ore demand exceeded 2.5 billion tons in 2024, driven by: Steelmaking (~98% of iron ore consumption), construction and infrastructure, automotive, machinery, and shipbuilding (~25%), energy and pipelines (~10%), household appliances and industrial equipment (~10–15%)
4. China remains the world's largest consumer, accounting for ~70% of global seaborne iron ore imports. India, Vietnam, and Southeast Asia show rapid demand growth due to new steel capacity expansions.
5. Iron ore prices remain highly sensitive to global economic conditions, construction cycles, and Chinese industrial output. In 2024–2025, benchmark prices fluctuated between USD 95–135/ton depending on grade and impurities (SiO_2, Al_2O_3).
6. Technological improvements in beneficiation—high-intensity magnetic separation, advanced flotation reagents, and automated plant control—have significantly increased concentrate recovery rates and lowered operating costs across the industry.

Iron ore reserves and resources:

1. Global identified iron ore reserves are estimated at ~180 billion tons, while total resources exceed 800 billion tons, including lower-grade magnetite and hematite deposits.
2. Over the last decade, production growth has shifted geographically toward Australia, Brazil, India, Russia, and West Africa. Projects in Guinea (Simandou), Liberia, Mauritania, and South Africa are reshaping future supply.
3. Africa's share in global iron ore development is increasing, supported by large high-grade deposits (60–66% Fe) and new investment in beneficiation and export corridors (rail + port).
4. Central Asia holds significant iron ore potential, with Uzbekistan, Kazakhstan, and Tajikistan developing small-to-medium deposits to support domestic steel production and reduce import dependence.
5. Global iron ore mining capacity is expected to grow moderately by 1.5–2% annually, reaching 2.8–3.0 billion tons by 2030. Growth is driven mainly by: brownfield expansions, magnetite beneficiation projects, high-grade concentrate production for low-carbon steel
6. ESG, decarbonization, and energy efficiency are now critical factors in new iron ore project approvals, shaping investment decisions and long-term competitiveness.

Top 10 largest iron mines in the world:

Vale

Rio Tinto

BHR

Fortescue

ArcelorMittal

Hancock

AngloAmerican

Metalloinvest

Cleveland-Cliffs

Mineral Resources