

Aluminium Master Alloys Unit

INVESTMENT OPPORTUNITY SCORECARD

April 2022

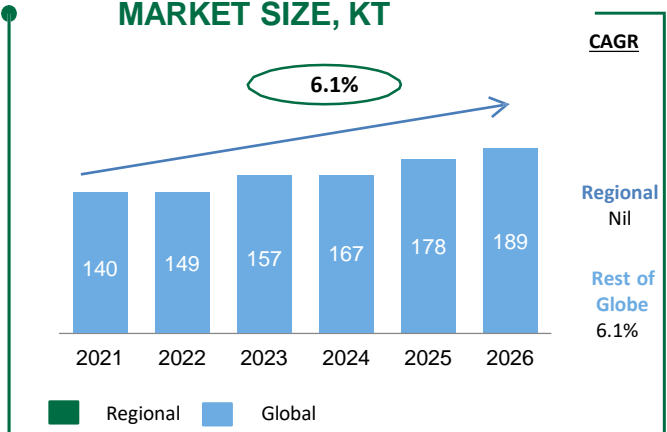


Aluminium Master Alloys

OPPORTUNITY DESCRIPTION: Opportunity to develop a Aluminium Master Alloys production facility of 7,500 MT, to cater regional and global demand. Aluminium master alloy is formed from alloying elements such as Silicon, Titanium, Boron, Chromium & Magnesium, used in multiple sectors such as Aerospace, Automotive and Industrial.

DEMAND

MARKET SIZE, KT



INVESTMENT HIGHLIGHTS

- Expected investment size of USD 15-20 Mn
- Plant capacity: 7,500 MTPA
- Investment model options: The investment can be developed as a pure private sector model, banks and institutional investors can provide the upfront capital investment, or as a joint venture with local players that have established capabilities with furnaces, Existing operating smelters have high synergies to focus on the product

INVESTMENT OVERVIEW

VALUE PROPOSITION

- The KSA has the world's largest integrated Aluminium city at Ras Al-Khair which provides easy & uninterrupted access of feedstock
- The KSA is strategically located at the crossroads of several markets that have good demand potential.
- The KSA benefits from having abundant and easy access to utilities, raw materials and a world class infrastructure and adjacent SEZ with good access to port
- This opportunity has a strategic alignment with vision 2030 and National Industrial Strategy driven by aerospace, construction & automotive.

KEY DEMAND DRIVERS

- The KSA can also utilize the product in super alloys, used in industries such as aerospace, for the manufacturing of aircraft engines and components.
- The automotive industry also uses the alloys for engine components, and it has been adapted extensively in EV vehicles designs.
- Other drivers can be observed in the KSA's various manufacturing sectors such as chemical processes and marine for submarine applications in the manufacturing of turbines, and in pipelines in offshore drilling applications ie, mega projects such as NEOM and other industrial cities.

MARKET OVERVIEW

GLOBAL TRENDS

- The Aluminium master alloys market was estimated at 140 KT in 2021 and expected to reach 189 KT by 2026, growing at a CAGR of ~6.1% from 2021 to 2026.
- The Asia-Pacific is the largest market, expected to grow at a higher rate of over 7 % than global average of 6.1 %, driven by increased growth from automotive, aircraft component and consumer goods.
- North America is the second largest market, followed by Europe, driven by high adoption of lightweight materials across automotive and aerospace

Metals Aluminium Master Alloys

SUPPLY

SCALABILITY AND LOCALIZATION

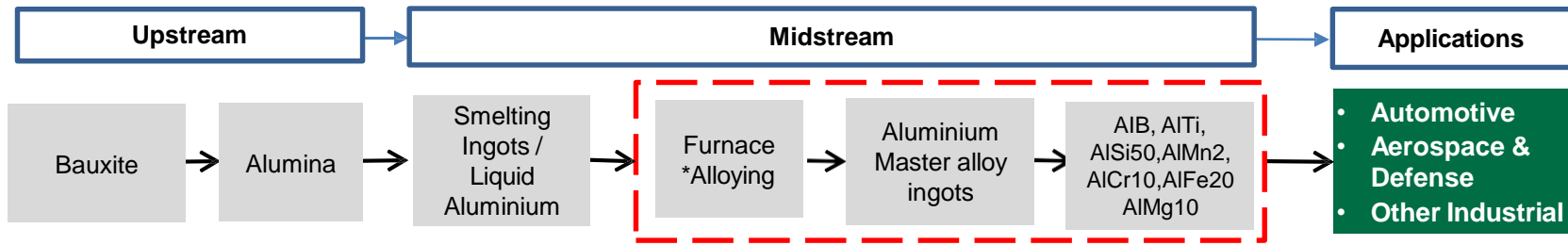
Grade: Low Medium High

- The KSA is aiming to be the largest and most efficient global Aluminium manufacturer, after successfully establishing the upstream and midstream value chains and it aims to setup further value added downstream products
- Progressive value chain integration will position Aluminium master alloys as an attractive niche product offering value addition potential locally, with high export opportunities and higher netback realization
- Potential to supply into regional and export markets with limited competition from GCC, except Bahrain

IMPORT DEPENDENCY

- The demand in the KSA is currently met by imports
- Niche sectors such as automotive, aerospace, defense and other industrial sectors have good localisation potential to 2030, and can create exponential demand to address

VALUE CHAIN ANALYSIS



*Key Alloying elements Boron, Silicon Metal, Zirconium Magnesium, Chromium, Iron & Titanium

KEY STAKEHOLDERS



ENABLING FACTORS

ENABLERS

- Jubail Industrial City and Ras Al-Khair Industrial City provide easy access to raw materials, utilities and world class infrastructure
- Increased focus on the development of lightweight vehicles and rising Aluminium content in vehicles with good export potential across MENA & Europe
- Up to 75% of project financing by Saudi Industrial Development Fund (SIDF).
- 2-year grace period for the repayment of loans.

COST OF DOING BUSINESS IN KSA

Factor	Ranking Amongst Regional Peers
Electricity tariffs for industrial players	\$48 /MWh
Productivity adjusted wages	\$3.3 /hour
Logistics Performance Index (1 – 5)	3.2
Customs Clearance Index (1 – 5)	2.7
Ease of getting credit (0 – 100)	50

Bottom 25% | Top 75% | Top 50% | Top 25%

DEFINITIONS

#	SCORECARD SECTION	DEFINITIONS
1	Market size	Size of market in value/volume in KSA and/or Region (MENA/GCC) covering future projections based on available estimates from published /government sources
2	Demand drivers	A select number of factors that will influence future demand for the related product/service
3	Investment highlights	An overview of key financial metrics summarizing the investment opportunity along with the expected return based on the suggested investment size
4	Value proposition	Summary of key differentiators that position KSA as a strategic choice over other regional/global peers
5	Market readiness	An overview of KSA market structure, market maturity and level of participation by local and global players
6	Competitor analysis	List of the local & international players manufacturing the underlying product in Saudi Arabia and their market share
7	Global trends	Latest business developments within the sector/product category
8	Scalability and localization	Ease of scaling the business across the value chain or into new adjacent products or geographies that would maximize the opportunity's investment returns and the ability and potential to locally manufacture the product and its components
9	Import dependency	An overview of the countries from which Saudi Arabia is importing the product and their value/volume and share in total imports
10	Value chain analysis	The process or activities that would potentially need to be carried out to deliver the underlying product or service
11	Key stakeholders	Government institutions, organizations, and/or authorities that participate or influence the market for the underlying product/service
12	Enablers	Factors that enable investment in the underlying opportunity
13	Cost of doing business in KSA	Key factors that position KSA as a competitive destination for investment in the region. Productivity adjusted wages do not include cost of \$1.23/hour towards annual recurring charges including work permit, resident identity (iqama) and health insurance

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