

Crankshafts

INVESTMENT OPPORTUNITY

Machinery & Equipment



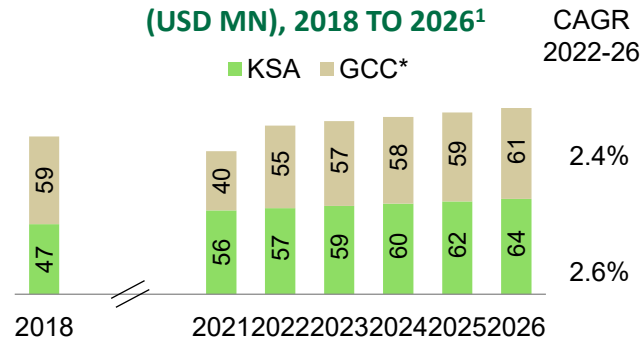
Machinery & Equipment Crankshafts

OPPORTUNITY DESCRIPTION: Establishing a foundry for casting & forging with precision machining capabilities to manufacture crankshafts. These would be directed to engines that find applicability not only for automotives but also earth moving, heavy machinery, mining and material handling equipment

DEMAND

MARKET SIZE

KSA & GCC CRANKSHAFTS MARKET (USD MN), 2018 TO 2026¹



* Excludes KSA

INVESTMENT OVERVIEW

INVESTMENT HIGHLIGHTS

- Expected Investment size of USD#: 140 to 145 Mn
- Plant capacity#: 300,000 units
- Expected IRR#: 11.2%
- Payback period#: 9.08 years
- Job Creation#: ~ 1,300 to 1,350
- GDP Impact#: USD 60 Mn
- Note - Crankshafts find applicability across multiple applications - stationary diesel engines that go into construction & mining equipment, agriculture, gensets etc. However, these application cater to small fraction of the entire crankshaft market. The main market relies on the automotive segment which will play key role in making this opportunity viable.

VALUE PROPOSITION

- Limited capabilities of existing foundries in terms of capacity and machining have restricted localization of cast and forged products in KSA. These are primarily imported from global foundries that have mass production and machining capabilities
- Export potential** – Setting up in KSA allows access to trade routes that account for 13% of world trade
- Infrastructure** - Special economic zones and Industrial townships provide world class infrastructure and competitive access to utilities

KEY DEMAND DRIVERS

- KSA has established plans up to 2035 to develop and boost investments in several subsectors within the industrial sector (such as mining and metal processing, machinery and equipment, chemicals, automotive, building materials, among others) -
- The initial plan targets 800+ opportunities with total investments of SAR 979Tn up to year 2035²
- The KSA industrial manufacturing sector will drive the demand for engines and thereby crankshafts for different applications

RAW MATERIALS

- Crankshafts are made from forged steel or cast iron
- Medium-carbon steel alloys are composed of iron and contain a small percentage of carbon
- Other Alloying elements such as manganese, chromium, molybdenum, nickel, silicon, cobalt, vanadium, aluminum and titanium

MARKET OVERVIEW

GLOBAL TRENDS

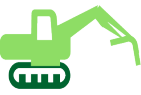
- Global market size for crankshafts was estimated to grow from USD 2.9 Bn to 3.3 Bn between 2021 – 2026³ registering a CAGR of 2.6% during the same period
- The crankshaft market is driven primarily by the growth of the automotive and machinery & equipment segments globally

Source: ¹Team Analysis of published strategy documents, independent market reports, UN International Trade Center, and industry interactions; ²NIS – KSA National Industrial Strategy;

³Team Research & Analysis

[#]Expert interviews (assumptions), financial statements of peer companies, team analysis;

Note: CAGR – Compound Annual Growth Rate, MT – Metric Tonne, USD – United States Dollar, SAR – Saudi Riyals, Mn – Million, Bn – Billion, Tn - Trillion
Opportunity potential is defined basis current import dependency – High refers to >80%, medium >50 to 80% and low <=50%. *Job Creation covers direct and indirect jobs



Machinery & Equipment

Crankshafts

SUPPLY

SCALABILITY AND LOCALIZATION

Grade: Low Medium High

- Casting, forging and machining are the key processes required for localizing crankshafts
- However, such a facility would not only be restricted to manufacturing crankshafts but can also produce other cast/ forged and machined products such as valve components, pump casing, compressors components etc.

IMPORT DEPENDENCY

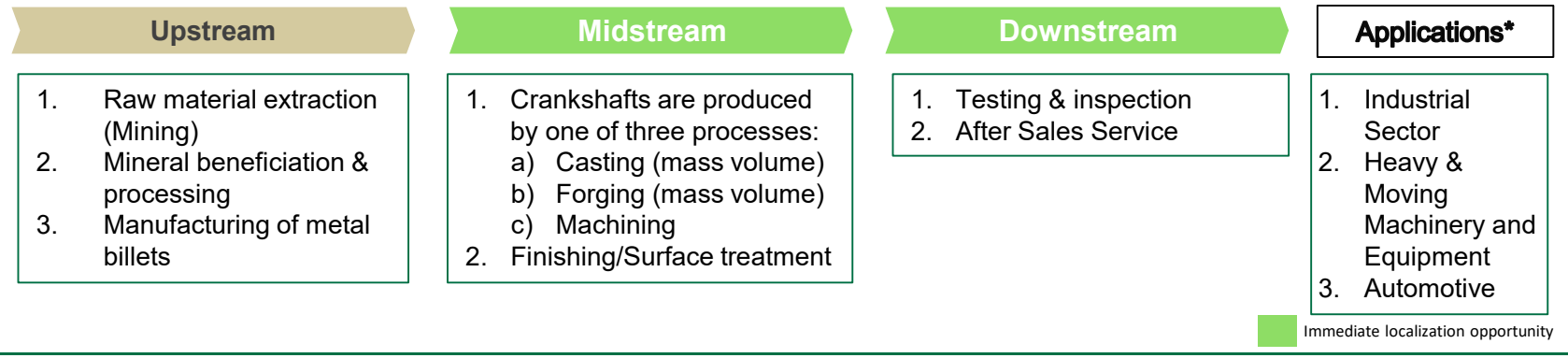
- Local demand for crankshafts is met 100% through imports owing to limited local foundry capacities and capabilities
- 81% of the imports for crankshafts are from high-cost countries⁴
- Top high-cost countries include Japan, Germany, USA which account for 56% of total imports of crankshafts into KSA

ENABLING FACTORS

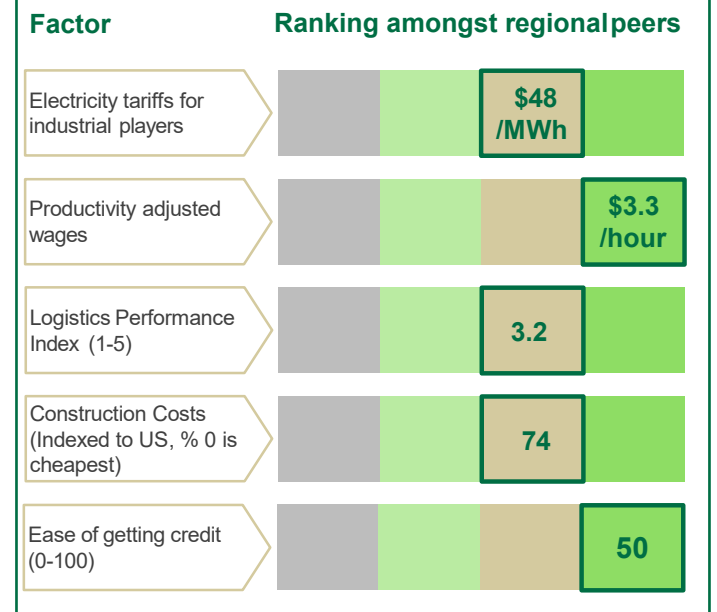
ENABLERS & INCENTIVES

- **Customs duties** exemption on imported machinery, equipment, raw materials and spare parts utilized for industrial purpose
- Access to **local content initiatives and programs** at demand centers
- HRDF **covers monthly salaries of up to 30%** for Saudi employees (extra 10% for females) for 2 years
- Expat worker **levy waived off** for industrial manufacturers
- **Tax rebates** on exports, raw material imports, and **50% tax credit** on Saudi national worker's payroll & training costs for 10 years
- 2-year **grace period** for the repayment of loans
- Unprecedented access to a **diversified value chain** - especially raw materials (steel, aluminum and industrial minerals)

VALUE CHAIN



COST OF DOING BUSINESS IN KSA



KEY STAKEHOLDERS

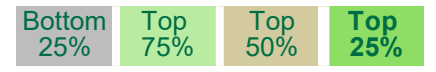


Logos sourced from entity website

Source: ⁴ITC Trademap, UN Comtrade, Team Analysis

Note: HRDF - Human Resources Development Fund, Scalability & Localization Grade is defined as

1. high – if the set up can support localization of multiple product categories,
 2. medium – if multiple products within a category can be localized and
 3. low – if it supports localization of a single product only. *Only key applications are highlighted



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	Business 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	Global trends	Latest business developments within the sector/product category
7	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
8	Import dependency	An overview of the countries from which Saudi Arabia is importing the product and their value/volume and share in total imports
9	Value chain analysis	The process or activities that would potentially need to be carried out to deliver the underlying product or service
10	Key stakeholders	Government institutions, organizations, and/or authorities that participate or influence the market for the underlying product/service
11	Enablers	Factors that enable investment in the underlying opportunity
12	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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