

## Machinery for liquefying air/gas (cold boxes) *(Wave 2)*

INVESTMENT OPPORTUNITY

**Machinery and Equipment**



# Machinery and Equipment

## Machinery for liquefying air/gas (cold boxes)

Public / متاح

High Potential

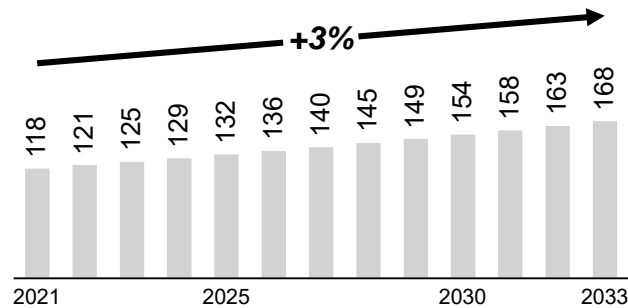
Moderate Potential

Low Potential

**OPPORTUNITY DESCRIPTION:** Attract leading global players to setup machinery for liquefying air/gas (cold boxes) manufacturing base in KSA

### DEMAND

#### KSA MARKET SIZE, USD (Mn)



### INVESTMENT OVERVIEW

#### INVESTMENT HIGHLIGHTS

- Expected Investment size of USD: \$25 Mn
- Plant capacity: 25 units/year<sup>4</sup>
- Expected IRR<sup>5</sup>: 14%
- Payback period: 12 years
- Job Creation (by 2030): ~230
- GDP Impact (in 2030): ~\$17 Mn
- Location (Region): Saudi Arabia

#### VALUE PROPOSITION

- Demand in MEA is estimated to increase from \$400 Mn in 2022 by 6% to \$650 Mn by 2030
- The KSA market size (2022) is \$121 Mn growing by 3% annually to become \$154 Mn by 2030
- Demand is fully covered by imports, presenting an opportunity to grow local manufacturing share from 0% to 33% by 2030 and substitute foreign imports

#### KEY DEMAND DRIVERS

- Main industries driving the growth of machinery for liquefying air/gas in KSA are oil and gas (non-LNG<sup>1</sup>), food and beverage, and metallurgy and glass manufacturing
- More than 15 ongoing oil and gas projects are stimulating the demand for industrial gases
- The country's soft drinks sector accounts for approximately two-thirds of GCC<sup>2</sup> soft drinks segment, that relies on supply of CO<sub>2</sub>
- Increasing metallurgical activity in KSA results in higher consumption of industrial gases<sup>3</sup>

### MARKET OVERVIEW

#### RAW MATERIALS - COMPONENTS

- Aluminum**
  - AS3003 alloys
- Stainless steel**
  - UNS 31600
  - UNS 30400
  - Duplex
- Carbon steel**
  - SA516
  - SA266
  - SA105N

#### GLOBAL TRENDS

- Machinery for liquefying air/gas (cold boxes) in 2022 is \$1 Bn global market, expected to reach \$1.6 Bn in 2030 at a CAGR of 6%
- R&D efforts are focused on maximizing heat transfer and efficiency, increasing tolerance for thermal shocks, and increasing capacity
- Development of LNG<sup>1</sup> facilities, as well as the development of a healthcare segment, are the major drivers for market growth

1. Liquefied Natural Gas 2. Gulf Cooperation Council 3. Such as oxygen that is used in combination with acetylene and other fuel gases for scarfing, metal cutting, hardening, welding cleaning, and melting 4. with each having 3 heat exchangers; for cold box assembly 5. Includes terminal value



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Matured Product<sup>1</sup>

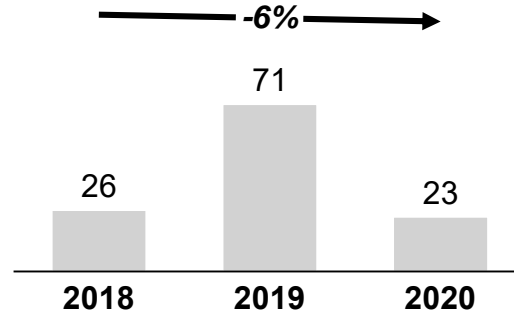
### SUPPLY

#### SCALABILITY AND LOCALIZATION

Grade: Low Medium High

- Limited availability of existing skillsets and workforce
- limited availability of raw material in KSA, such as limited grades of aluminum (brazen), stainless steel, and carbon steel to handle low temperatures
- Components availability: potential to localize in the future

#### KSA IMPORT DEPENDENCY (USD Mn)

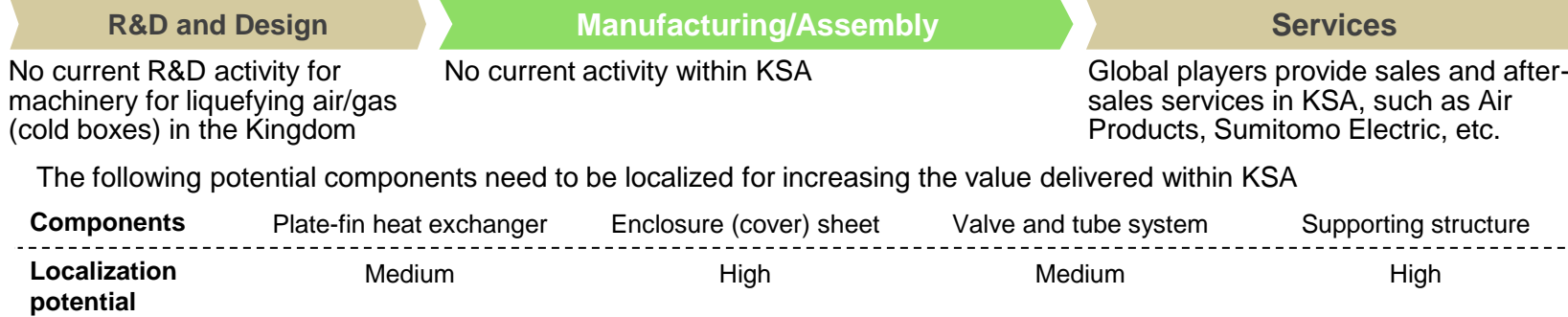


### ENABLING FACTORS

#### ENABLERS & INCENTIVES

- Provide demand visibility by aggregating forecasted demand from national champions
- Sign long term agreements with local manufacturers
- Duty exemption on imported raw materials / components
- Establish Industrial Zones

#### VALUE CHAIN



#### 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
Construction Costs (Indexed to US, % 0 is cheapest)	2.7
Ease of getting credit (0-100)	50

#### KEY STAKEHOLDERS



1. Matured product is chosen from one of the four opportunity life cycle stages of this M&E product [4 lifecycle stages are: Introductory; Growth; Matured; Decline]

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

# DEFINITIONS

#	SCORECARD SECTION	DEFINITIONS
1	<b>Market size</b>	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	<b>Business drivers</b>	A select number of factors that will influence future demand for the related product/service
3	<b>Investment highlights</b>	An overview of key financial metrics summarizing the investment opportunity along with the expected return based on the suggested investment size
4	<b>Value proposition</b>	Summary of key differentiators that position KSA as a strategic choice over other regional/global peers
5	<b>Market readiness</b>	An overview of KSA market structure, market maturity and level of participation by local and global players
6	<b>Global trends</b>	Latest business developments within the sector/product category
7	<b>Scalability and localization</b>	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	<b>Import dependency</b>	An overview of the countries from which Saudi Arabia is importing the product and their value/volume and share in total imports
9	<b>Value chain analysis</b>	The process or activities that would potentially need to be carried out to deliver the underlying product or service
10	<b>Key stakeholders</b>	Government institutions, organizations, and/or authorities that participate or influence the market for the underlying product/service
11	<b>Enablers</b>	Factors that enable investment in the underlying opportunity
12	<b>Cost of doing business in KSA</b>	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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