

# Current Transformers (CT) & Voltage Transformers (VT)

INVESTMENT OPPORTUNITY SCORECARD  
MACHINERY & EQUIPMENT



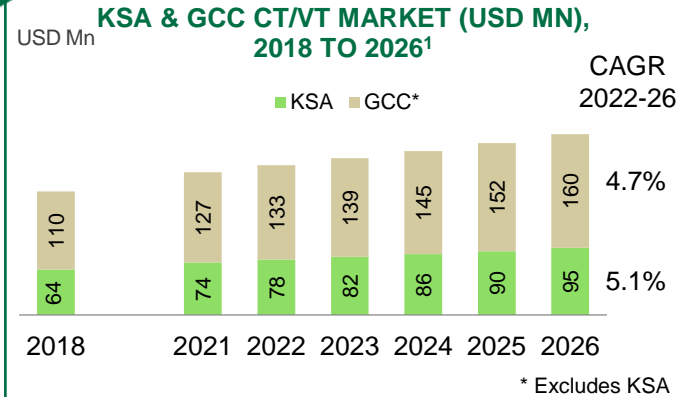
# Machinery & Equipment

## Current Transformers (CT) & Voltage Transformers (VT)

**OPPORTUNITY DESCRIPTION:** Opportunity to develop an Instrument Transformer (CT & VT) manufacturing facility to address emerging demand from development of power and industrial infrastructure

### DEMAND

#### MARKET SIZE, USD



### INVESTMENT OVERVIEW

#### INVESTMENT HIGHLIGHTS

- Very limited assembly and testing facilities currently exist in KSA for transformers
- Any local manufacturing plant can benefit from preferences that would be provided for localized procurement from government buyers and national champions
- Expected Investment size#: USD 4 to 5 Mn
- Job Creation#: 30 to 40

#### VALUE PROPOSITION

- Demand/ supply gap** - The major end user segments for CT/VT – power, oil and gas, water, chemicals and mining – are all increasingly committing to localized procurement – creating a demand vs. supply gap for locally manufactured transformers
- Export potential** – Setting up in KSA allows access to trade routes that account for 12% of world trade
- Infrastructure** - Special economic zones and Industrial townships provide world class infrastructure and competitive access to utilities

#### KEY DEMAND DRIVERS

- Plans to increase power generation capacity by an estimated ~35 to 45 GW (2020 – 2030)<sup>2</sup>
- KSA plans to expand the power network by adding ~ 4,700 to 5,000 circuit-km of high voltage transmission lines and ~ 35,000 to 38,000 circuit-km of distribution lines annually between 2021 and 2030<sup>3</sup>
- Additionally, KSA is expected to add around 30,000 to 35,000 MVA substations capacity across the transmission and distribution networks which will drive demand for CT/VT<sup>3</sup>

#### RAW MATERIALS

- Electrical grade steel
- Electrical grade copper
- Urethane
- Polyester Films / Cotton based tape

### MARKET OVERVIEW

#### GLOBAL TRENDS

- CT/ VT transformers are getting a boost from grid infrastructure development, including:
  - Investments in smart grids
  - Inclusion of distributed energy resources
  - Electric vehicle infrastructure

Source: <sup>1</sup>Team Analysis of published strategy documents, reports from SEC & IKTVA publication, independent market reports, UN Comtrade data, General Authority of Statistics data and industry interactions; <sup>2</sup>Team Analysis basis feedback from SEC and ECRA; <sup>3</sup>SEC – National Grid (provided by MISA Energy team). <sup>4</sup>Team Analysis basis feedback from SEC and ECRA. #Expert interviews (assumptions), financial statements of peer companies, team analysis

Note: This opportunity is for a component that is manufactured with a range of other components in a facility. No facility is expected to be constructed for manufacturing this component exclusively. Hence, the insights on capacity and investment are indicative - these would vary based on the decision an investor takes on the mix of components to manufacture. 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 job. CAGR – Compound Annual Growth Rate, GCC – Gulf Cooperation Council, USD – United States Dollar, Mn – Million



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### SUPPLY

#### SCALABILITY AND LOCALIZATION

Grade: Low Medium High

- Globally, specialized manufacturers for CT/VT also tend to build capabilities for manufacturing other types of transformers (distribution and power) as part of their business model.
- Since these additional products also have a high localization potential in KSA, there is a high level of scalability possible through product line expansion

#### IMPORT DEPENDENCY

- Most of the imports (>70%) for CT/ VT are from High-Cost Countries (HCC) such as USA, Germany, Italy, Japan, South Korea etc.<sup>4</sup>
- Competitiveness - KSA origin products are proven to compete well against these countries

### 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, polymers, and industrial minerals)

#### VALUE CHAIN

##### Upstream

- Electrical grade insulated copper wire
- Urethane
- Terminals & Wires
- Polyester Films / Cotton based tape

##### Midstream

- Steel core manufacturing and winding
- Core Annealing
- Core Edge Bonding
- Urethane casting
- Automated Windings
- Core Encapsulation
- Exterior Finish Insulation

##### Downstream

- Final Testing
- Packaging
- Installation & Commissioning
- After Sales Service

##### Applications\*

- Power
- Oil & gas
- Petrochemicals & Chemicals

#### 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

#### KEY STAKEHOLDERS



# 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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