

**PLC, SCADA, AND DCS**

**INVESTMENT OPPORTUNITY SCORECARD**

**MACHINERY & EQUIPMENT**

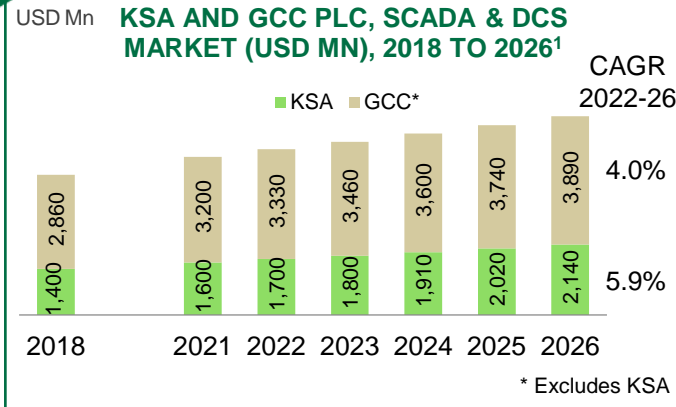


# Machinery & Equipment PLC, SCADA, AND DCS

**OPPORTUNITY DESCRIPTION:** Expand capabilities to localize the process control hardware elements and assembly of process automation systems (PLC, SCADA and DCS solutions), and address local customization requirements for supervisory software

## DEMAND

### MARKET SIZE, USD



## INVESTMENT OVERVIEW

### INVESTMENT HIGHLIGHTS

- Enhance capabilities for local assembly of PLC, SCADA and DCS systems with a focus on customization requirements across different end users to meet future demand
- Expected Investment size of USD#: 1 to 3 Mn
- Plant capacity#: 800 panels annually
- Expected IRR#: ~18%
- Payback period#: 8.9 years
- Job Creation#: 70 to 80
- GDP Impact#: USD 18 Mn

### VALUE PROPOSITION

- Diversified demand base** – KSA is one of the largest end-use markets in the world with respect to sectors of oil & gas, refining, petrochemicals and chemicals - and these are the highest demand base for DCS, PLC and SCADA systems
- Customization** – Addressing this market requires customization for local nuances, driving the need for local centers that can design, engineer, and implement fit-for-purpose systems

### KEY DEMAND DRIVERS

- Expansion and investments across the oil & gas, petrochemicals, power and water sector will be the key demand drivers for PLC, SCADA and DCS
- Proposed increase in crude oil output, refining capacity and gas output to 238bcm by 2030<sup>2</sup>, a 3% CAGR increase in chemical output<sup>3</sup> and increased power generation capacity by an estimated ~35 to 45GW will entail robust demand for PAS systems<sup>4</sup>
- KSA has launched the Advanced Manufacturing Hub (AMHUB) strategy, aimed at boosting local facilities with advanced manufacturing capabilities; boosting demand for PAS

### RAW MATERIALS

- Steel/ Aluminum for panels/ enclosures
- High purity copper – for wires, busbars and interconnections
- Polymers/ plastics for relays/ switchgear enclosures

## MARKET OVERVIEW

### GLOBAL TRENDS

- Virtualization of Human Machine Interface (HMI), across new and retrofit control system projects
- Replacement of traditional I/O modules with smart I/O modules.
- Localized, skid mounted DCS systems that can integrate with plant-wide DCS systems.
- Utilization of 5G technology for faster (low latency) data processing and integration of wireless sensors & transmitters.

Source: <sup>1</sup>Team Analysis of published strategy documents, independent market reports, UN Comtrade data, General Authority of Statistics data and industry interactions; <sup>2</sup>KAPSARC Publication; <sup>3</sup>GPCA Annual reports; <sup>4</sup>Team Analysis basis feedback from SEC and ECRA. <sup>#</sup>Expert interviews (assumptions), financial statements of peer companies, team analysis.

Note: 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. PAS – Process Automation System which includes PLC, SCADA and DCS, CAGR – Compound Annual Growth Rate, GCC- Gulf Cooperation Council, USD – United States Dollar, Mn – Million, I/O – Input Output, GW – Gigawatt, 5G – Fifth Generation



# Machinery & Equipment

## PLC, SCADA, AND DCS

### SUPPLY

#### SCALABILITY AND LOCALIZATION

Grade: Low Medium High

- Localization requirements will center around development of hardware and software that is fit-for-purpose for local industry needs, while leveraging global technology trends
- With the advent of Industry 4.0/ Industrial Internet of Things, there will be an opportunity to scale up and venture into a solution zone that will also benefit from a brownfield/ retrofit demand (existing large installed base of industrial units)

#### IMPORT DEPENDENCY

- Major automation companies have a local presence through assembly/ integration in Saudi Arabia
- ~60 to 65% of KSA's demand for PLC, SCADA, and DCS is met through imports from HCC such as USA, Germany, UK, Italy, Netherlands, Finland etc<sup>5</sup>.

### 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 upto 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

#### VALUE CHAIN

##### Upstream

- Design & Engineering
- Component & Software Manufacturing

##### Midstream

- PAS Architecture
- User Software Design
- Final Assembly

##### Downstream

- Factory Acceptance Test
- Installation & Commissioning
- After Sales Services

##### 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	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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