

# Advanced Technology and Robotics Training Centers

Investment Opportunity – TVET

EDUCATION – April 2022





# Advanced Technology and Robotics Training Centers

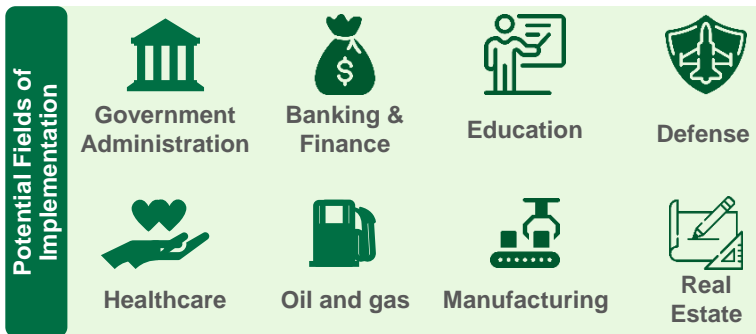
**OPPORTUNITY DESCRIPTION:** Invest in KSA's education sector by establishing high-quality, Advanced Technology and Robotics TVET centers

## OPPORTUNITY OVERVIEW

### Sector Overview

Advanced Technology and Robots can be used to supplement/complement human effort across various sectors

NON-EXHAUSTIVE



Broadly, there are 3 types of jobs related to advanced technology and development

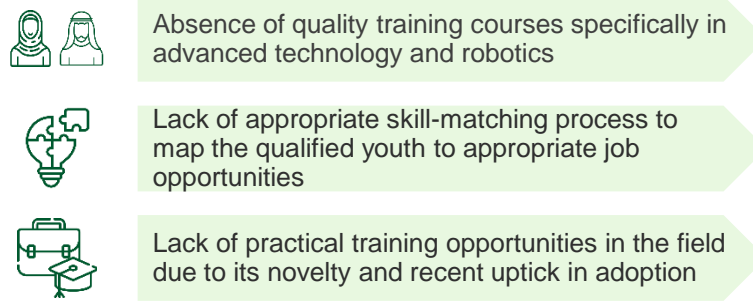


### Growth potential

Advanced Technology and Robotics has a **huge growth potential** in the Kingdom, driven by **potential use-cases** and increasing government **focus on automation** in KSA



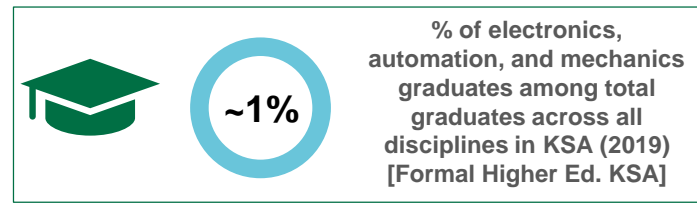
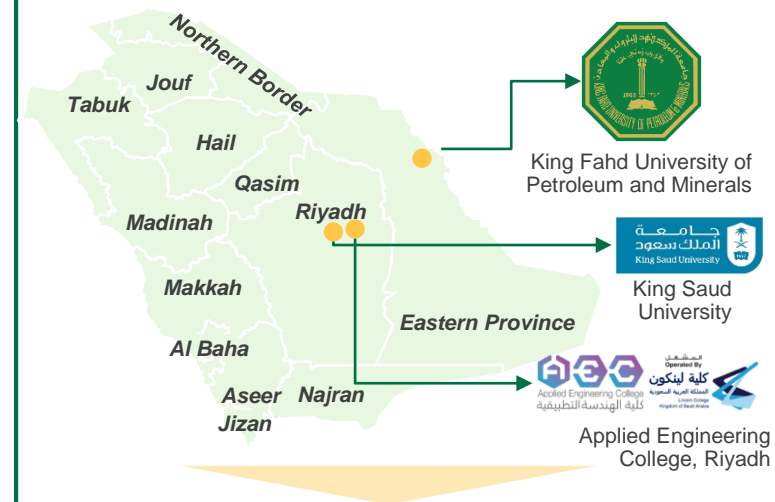
The **absence of specialized training** in Robotics and related fields indicates an **opportunity for private investors** to expand the TVET provision in the Kingdom



### Current provision in KSA

While the Kingdom has a few providers who offer courses in Robotics and related fields, there is a strong need to improve TVET provision to bridge the skill gap

SAMPLE LIST





# Advanced Technology and Robotics Training Centers

**OPPORTUNITY DESCRIPTION:** Invest in KSA's education sector by establishing high-quality, Advanced Technology and Robotics TVET centers

## KSA ADVANCED TECH AND ROBOTICS MARKET OVERVIEW

### Introduction to Advanced Technology and Robotics



#### Description

Robotics and other advanced technological solutions that can either substitute or complement manual labour / human intervention across various industries  
*NON-EXHAUSTIVE*

Application of adv. technology and automation

Government Administration	Banking & Finance	Education	Defense
Healthcare	Oil and gas	Manufacturing	Real Estate

Broadly, there are 3 types of jobs related to advanced technology and development

Types of jobs

- Technology design and development:** Engineers, scientists, and other trained technical staff who develop blueprints for new and advanced technology
- Operation and implementation:** Operators and trained technical staff who will be at the helm of managing and operating the automated hardware
- Technology Maintenance:** Technicians responsible for overseeing the maintenance and repair activities for the equipment and machinery

### Growth potential of Advanced Technology and Robotics in KSA

Benefits of technology & automation



Increased productivity



Cost savings



Low margin of error



Improved working conditions



Workforce optimization



~46%

% of jobs susceptible to automation in Saudi Arabia

With the advent of technology and the **growing inclination of the government** towards diversification of the KSA economy, the market for advanced technology and robotics will potentially **gain traction** for implementation across sectors

### Vision 2030 and government support for automation



National Industrial Development and Logistics Program

~300

Number of initiatives across 4 sectors to complement 4<sup>th</sup> Industrial Revolution

Energy

Industry

Mining

Logistics

- One of the key focus areas is to establish advanced machinery and equipment manufacturing industries
- Localizing and enhancing the manufacturing in sectors like automotive, pharma, aviation, military, specialty chemicals, etc.



# Advanced Technology and Robotics Training Centers

**OPPORTUNITY DESCRIPTION:** Invest in KSA's education sector by establishing high-quality, Advanced Technology and Robotics TVET centers

## ADVANCED TECH AND ROBOTICS MARKET OVERVIEW

### Gap in skilled workforce



**Skill gap** in the sector poses the biggest challenge to the Kingdom's vision of enhancing the industrial output through use of technology



**Absence of quality training courses** specifically in advanced technology and robotics with a parallel focus on English proficiency in KSA colleges and universities



**Lack of appropriate skill-matching process** to map the qualified youth to appropriate job opportunities



**Lack of practical training opportunities** in the field due to its novelty and recent uptick in adoption

### Typical features of advanced technology and robotics training

**BASED ON GLOBAL BENCHMARKS**



A combination of relevant disciplines like **Mechanical & Electronics Engg.**, or specifically designed courses are offered



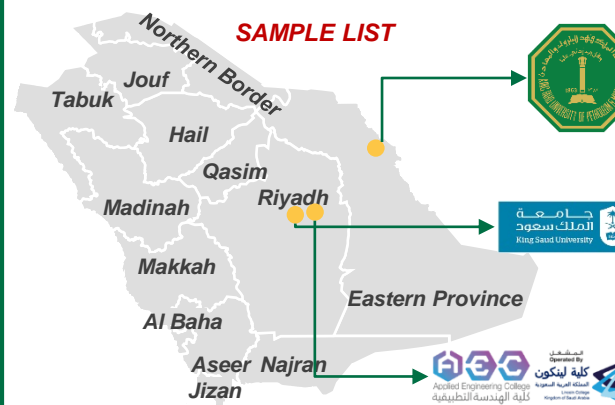
The **duration** of the programs can range anywhere between **2-4 years** depending on the type (diploma, etc.); additionally short-term upskilling courses can be provided



**Subjects** taught in robotics and advanced tech courses include Applied Physics, Math, Electronic Devices and Digital Circuits, Machine Kinematics, Automation, Sensors and Signals, etc.

### Current training provision in KSA

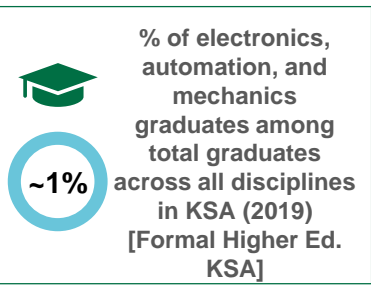
There is a lack of TVET provision for Adv. tech. and robotics training in KSA; robotics training is currently offered by the formal Higher Ed. system



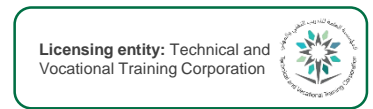
King Fahad University of Petroleum and Minerals offers a Master's degree in **Robotics and Autonomous Systems**

King Saud University has a **Center of Smart Robotics Research** and a dedicated **Robotics & Automation Lab**

Applied Engineering College, Riyadh provides Bachelor Degree programs in upcoming disciplines like **Mechatronics, Production Tech Applied Engineering, etc.**



- The Kingdom currently has very limited provision of Robotics and Advanced Technology courses, i.e., there is a **large opportunity** for formal courses / upskilling
- As industries shift towards increasing use of automation in manufacturing, there will be a growing need for experts who can manufacture / operate / maintain these parts
- In addition to formal TVET provision, KSA can explore setting up strategic partnership training centers and programs in collaboration with manufacturing companies for focused training opportunities



# DISCLAIMER

- This report must be used only to access information, and the information must not be construed, under any circumstances, explicitly or implicitly, as an offer to sell or a solicitation to buy or sell or trade in any opportunity herein mentioned.
- Ministry of Investment (MISA) has no undertaking to update these materials after the date, with the understanding that such information may become outdated or inaccurate.
- Mentioned information in this report is obtained from reliable sources but its accuracy and reliability are in no way guaranteed. No guarantee of any kind is tacit or explicit when projections of future conditions are attempted. MISA has used public/or confidential data and assumptions and has not independently verified the data and assumptions used in the analyses. Changes in underlying data or operating assumptions will clearly impact the analyses and conclusions.
- The financial evaluations, projected market and financial information, and conclusions contained in these materials are based upon standard methodologies, are not definitive projections, and are not guaranteed by MISA
- The content of this report must not be construed as an implied promise or guarantee for profit or limited loss express or implied by or from MISA or any of its officers, directors, employees and affiliates. All mentioned investments in this report are subject to risk, which should be considered prior to making any investment decisions
- MISA shall have no liability whatsoever to any third party, and hereby any third party waives any rights and claims it may have at any time against MISA with regard to this report, any services or other materials, including the accuracy or completeness thereof.

CONNECT WITH US FOR MORE DETAILS:

[EducationSector@misa.gov.sa](mailto:EducationSector@misa.gov.sa)

investsaudi.sa



@investsaudi

INVEST  
SAUDI 