

Fixed Fire Protection Systems

Presented by: Khaled AlGhadhban

Business Opportunities Workshop

January 13th, 2025

Disclaimer

This presentation may contain certain forward-looking statements. All statements other than statements relating to historical facts are, or may be deemed to be, forward-looking statements. Forward-looking statements include, but are not limited to, statements related to future events or to the company's future financial or operating performance such as the company's expectations and projections regarding its growth, initiatives and strategies, capital expenditures and investments, customer and partner relationships, major projects and product development. These statements may generally, but not always, be identified by the use of words such as "target," "goal," "aim," "believe," "expect," "commit," "anticipate," "intend," "estimate," "should," "will," "shall," "may," "likely," "plan," "strategy," "initiative," "project," "outlook" or similar expressions, including variations and the negatives thereof.

Forward-looking statements reflect the company's expectations, beliefs, estimates, forecasts, projections and assumptions, only as of the date such statements are made, and are subject to known and unknown risks, uncertainties and other important factors beyond the company's control that could cause the company's actual results, performance or achievements to be materially different from the expected results, performance, or achievements expressed or implied by such statements. Factors that could cause actual results to differ materially from the company's expectations include, among other things, the following: global supply, demand and price fluctuations of oil, gas and petrochemicals; global economic conditions; competition in the industries in which the company operates; climate change concerns, weather conditions and related impacts on the global demand for hydrocarbons and hydrocarbon-based products; risks related to the company's ability to successfully meet its ESG targets, including its failure to fully meet its GHG emissions reduction targets by 2050; conditions affecting the transportation of products; operational risk and hazards common in the oil and gas, refining and petrochemicals industries; the cyclical nature of the oil and gas, refining and petrochemicals industries; political and social instability and unrest and actual or potential armed conflicts in the MENA region and other areas; natural disasters and public health pandemics or epidemics; the management of the company's growth; the management of the company's subsidiaries, joint operations, joint ventures, associates and entities in which it holds a minority interest; exposure to inflation, interest rate risk and foreign exchange risk; risks related to operating in a regulated industry and changes to oil, gas, environmental or other regulations that impact the industries in which the company operates; legal proceedings, international trade matters, and other disputes or agreements; and other risks and uncertainties that could cause actual results to differ from the forward-looking statements in this presentation, as set forth in the latest periodic reports filed by the Saudi Arabian Oil Company ("Aramco") with the Saudi Exchange. For additional information on the potential risks and uncertainties that could cause actual results to differ from those presented please see Aramco's most recent annual periodic report filed with the Saudi Exchange and any subsequent filings thereto.

We undertake no obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

All subsequent written and oral forward-looking statements attributable to us or to persons acting on our behalf are expressly qualified in their entirety by this cautionary statement.

Introduction

iktva Program Overview (1/2)

The In-Kingdom Total Value Add (iktva) program is designed to drive increased investment, economic diversification, job creation, and workforce development within the Kingdom

Saudi Aramco aims to achieve 70% localization of all spending




iktva in Procurement

2000+	290+
Service contracts	Corporate purchase agreements


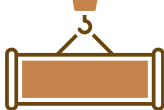



Business Opportunities

12	200	\$35 bn
Sectors	Business Opportunities	Annual Market Size



Anchor Projects

		
IMI	SPARK	Tuwaiq
6 Anchor projects		



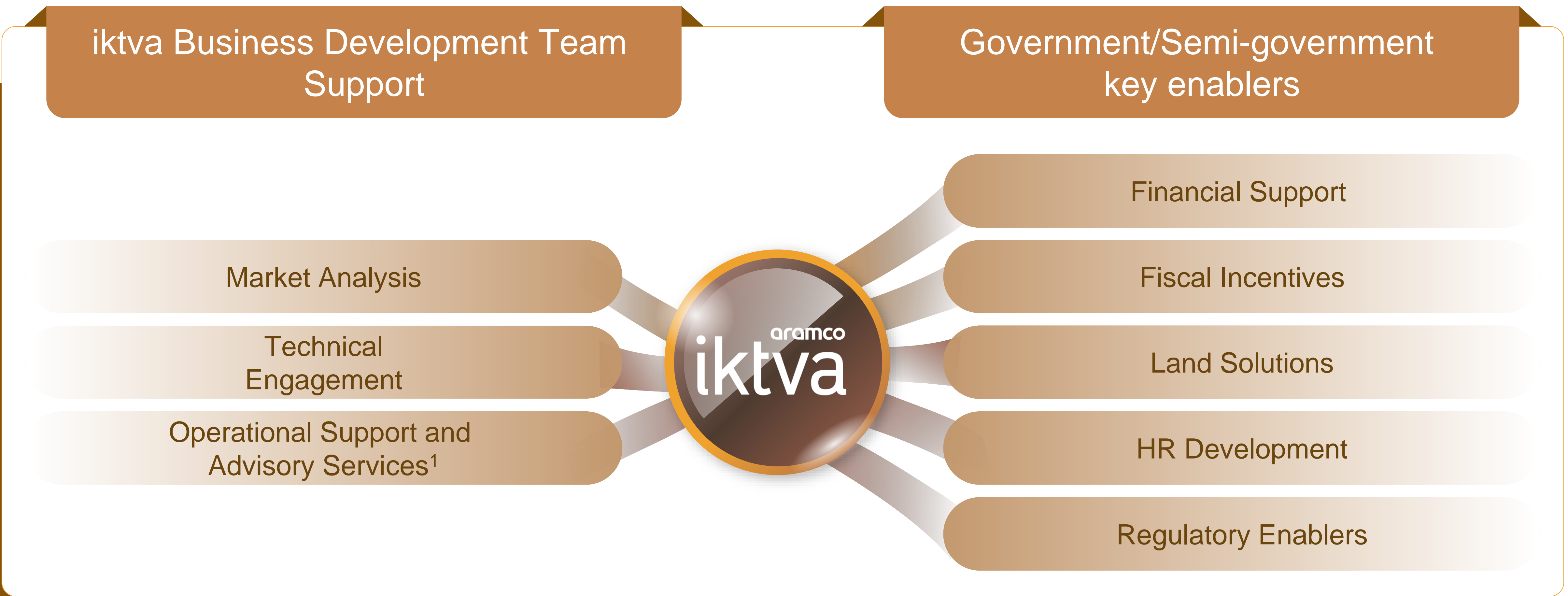
Local Workforce Development

16	90+
National training centers	Programs

Catalyzing Supply Chains

Note: IMI = International Maritime Industries; SPARK = King Salman Energy Park

Fire protection workshop











Catalyzing Supply Chains

1. Includes broad range of support services provided by the team: user requirements, advisory on available financial and fiscal incentives, guidance on localization process in line with local regulations and standards, action plan development etc.

Why invest in KSA?

Non-exhaustive

 Strong GDP growth and healthy economy	 Big market and game-changing opportunities	 Government incentives and enablers	 Ease of doing business	 Strategic global location	 Favorable demographics
Top 20 economies globally	5 Special Economic Zones drive innovation	\$1.3T+ invested in private sector by 2030	 one of world's most rewarding tax systems	12-15% of global trade passes via Red Sea	17% population growth from 2013-2023
GDP growth among highest projected in 2025 in top economies	6 giga projects driving urbanization and industry	5.7% contribution of FDI to GDP by 2030	Top 5 in the MENA region for ease of doing business	 KSA container ports are among the most efficient globally	67% of population below the age of 35

Catalyzing Supply Chains

Note: FDI = Foreign Direct Investment
Source: IMF; MISA; Vision 2030 Key Performance Indicators; Shareek Program; World Bank

How do we define what is an opportunity?



Growing market

High growth high spend markets



**Limited local players
& import driven**

*Markets with few local contributors
and high import resilience*



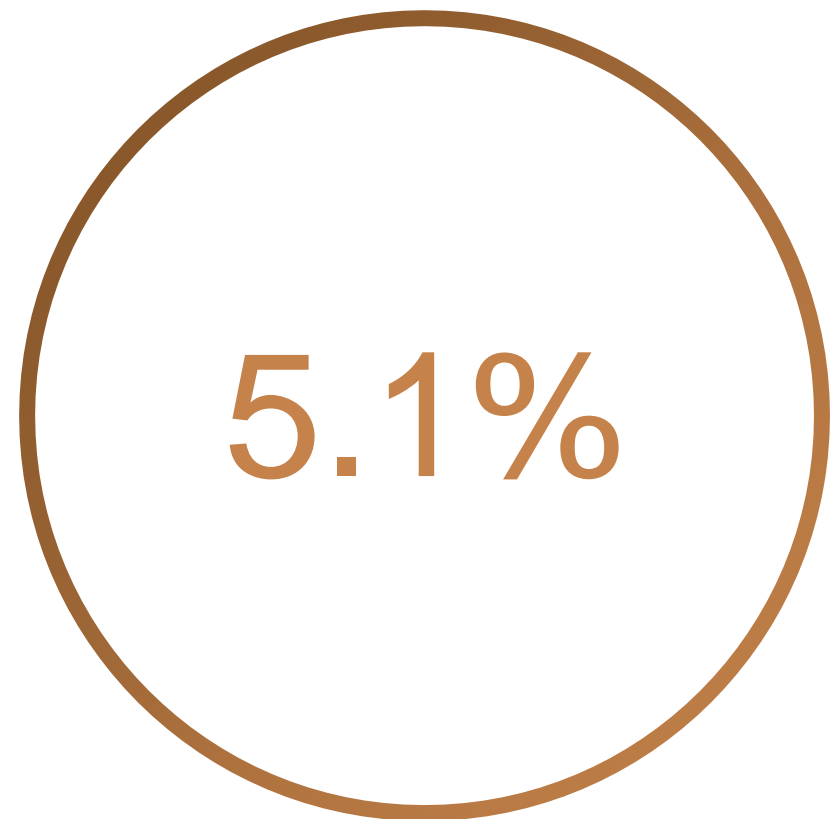
**Technological
& labor feasibility**

*Markets with accessible or
standardized technology and
available skilled labor*

KSA and other GCC fire protection market size 2025, Million USD



KSA market size for opportunities in today's fire protection workshop



Forecasted 5-year CAGR

Seventeen opportunities to be discussed today

- 1 Fire Hydrants
- 2 Fire Hydrants Mounted Monitor
- 3 Fire Extinguishers
- 4 Fire Extinguisher/Hydrant Covers
- 5 Foam Generation Skid
- 6 Fire Alarms and Detection Systems
- 7 Fire Stopping Barrier
- 8 Fire Pump Controllers
- 9 Fire Sprinklers Systems
- 10 Valves for Fire Water Systems
- 11 Respirator
- 12 Fire Hose Nozzle
- 13 Fire Extinguishing Blanket
- 14 Fireman Coat and Pant
- 15 Fireman Helmet
- 16 Firefighter Boot
- 17 Safety Hood

Agenda – Business Opportunities

Fixed Fire Protection Systems

No.	Title of the Investment Opportunity	Presenter
1	Fire Hydrants	Khaled AlGhadhban
2	Fire Hydrants Mounted Monitor	Khaled AlGhadhban
3	Fire Extinguishers	Khaled AlGhadhban
4	Fire Extinguisher/Hydrant Covers	Dima Alfawaz
5	Foam Generation Skid	Dima Alfawaz
6	Fire Alarms and Detection Systems	Dima Alfawaz
7	Fire Stopping Barrier	Dima Alfawaz
8	Fire Pump Controllers	Mohammed Turkistani
9	Fire Sprinklers Systems	Mohammed Turkistani
10	Valves for Fire Water Systems	Mohammed Turkistani
	Closing Remarks	Khaled AlGhadhban

01

Fire Hydrants

Presented by: Khaled AlGhadhban

Fire Hydrants Opportunity Profile

1

Fire Hydrants present an attractive investment opportunity

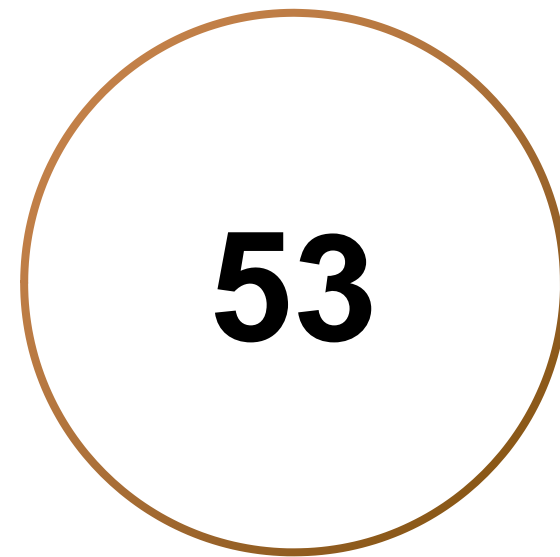
Type of product



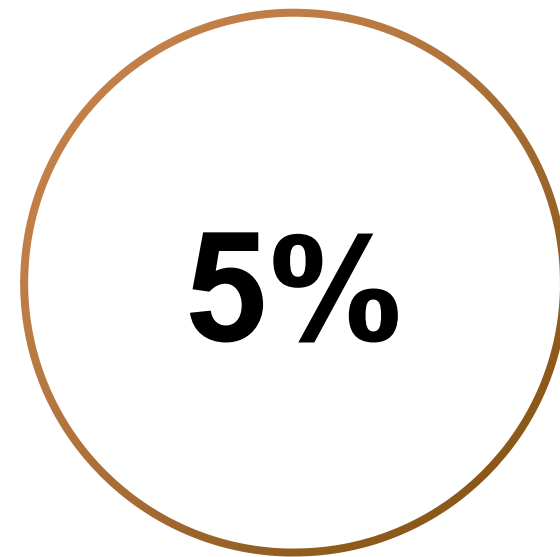
Wet barrel

2

Fire hydrants market is moderately growing; KSA being major market



Estimated 2025 KSA market size. Million USD

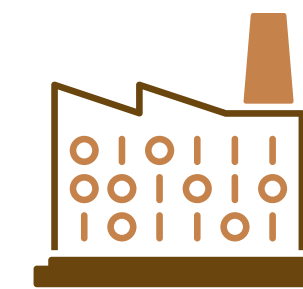


Forecasted 5-year CAGR

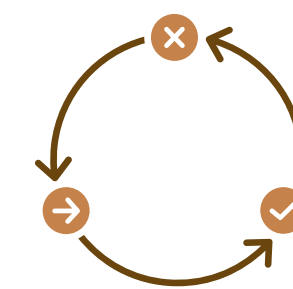
3

Attractive investment opportunities for Fire hydrants value chain

KSA value chain opportunities



Design & Manufacturing



Installation & Maintenance

KSA enablers

- Government localization incentives
- Land and infrastructure
- Wide and qualified talent pool

Fire Hydrants

Potential Localized Categories

Type(s)

Wet barrel



Key Technical Specifications:

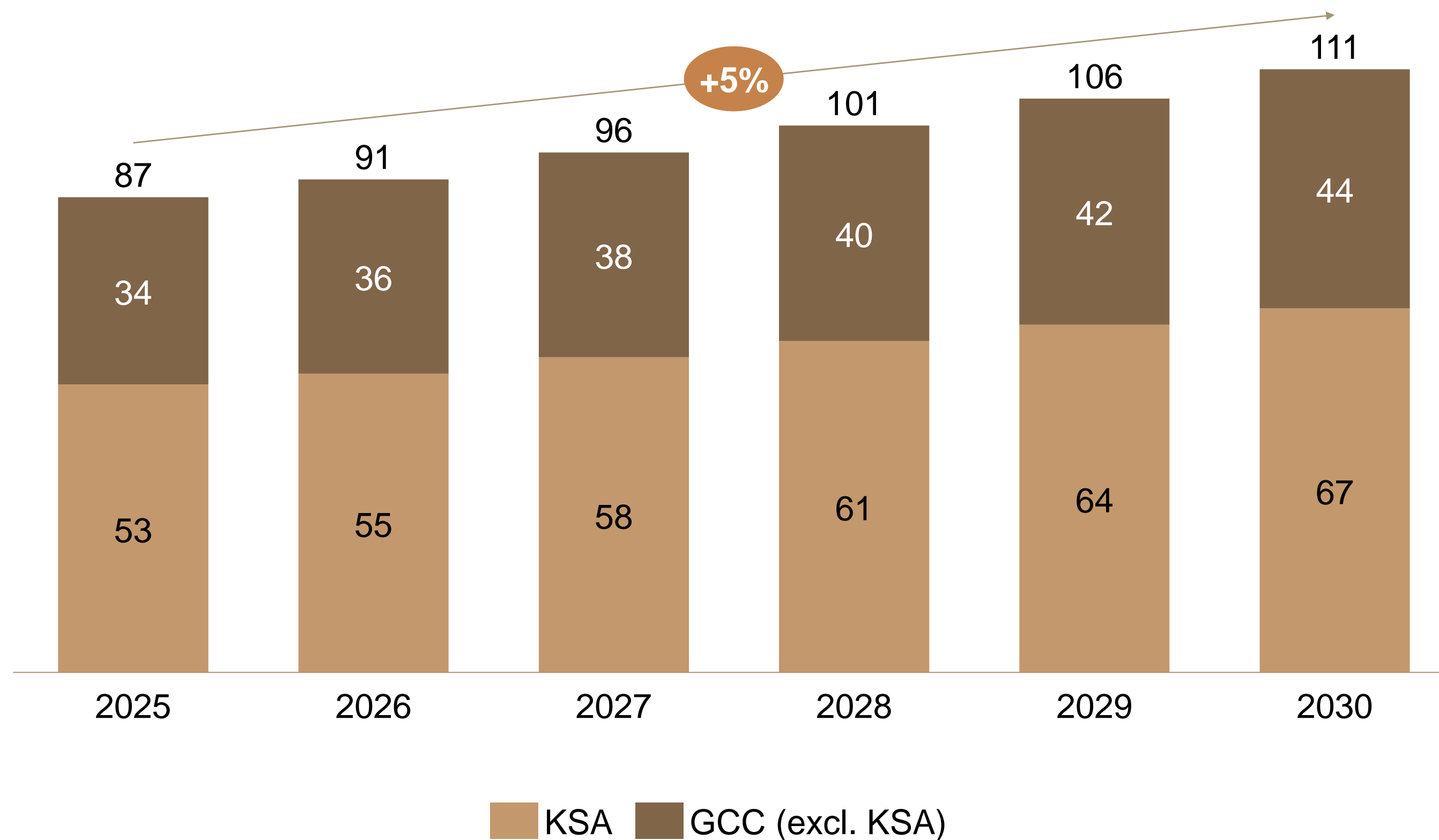
- Wet type fire hydrant for supplying fire water to fire trucks at refineries, residential, industrial facilities.
- 6" INLET
- PR 200 PSI WP
- **9COM: 6000001310**
- UL OR/AND FM Approved
- As per 21-SAMSS-15: Fire Hydrants

Applications





- Used in warmer regions where freezing is not an issue, with water readily available in the hydrant.
- Common in urban areas, industrial sites (O&G particularly), and residential zones with moderate climates.

Fire Hydrants Demand, Customers & Drivers

Forecasted KSA and rest of GCC Fire hydrants market 2025-2030 (Million USD)



Fire hydrants customers in KSA

-  Commercial & residential real estate
-  Industrial & manufacturing facilities
-  Critical infrastructure¹
-  Government & specialized facilities²

Key KSA demand drivers

- **Industrial expansion:** growth in O&G, petchem., mining, power generation, water desalination

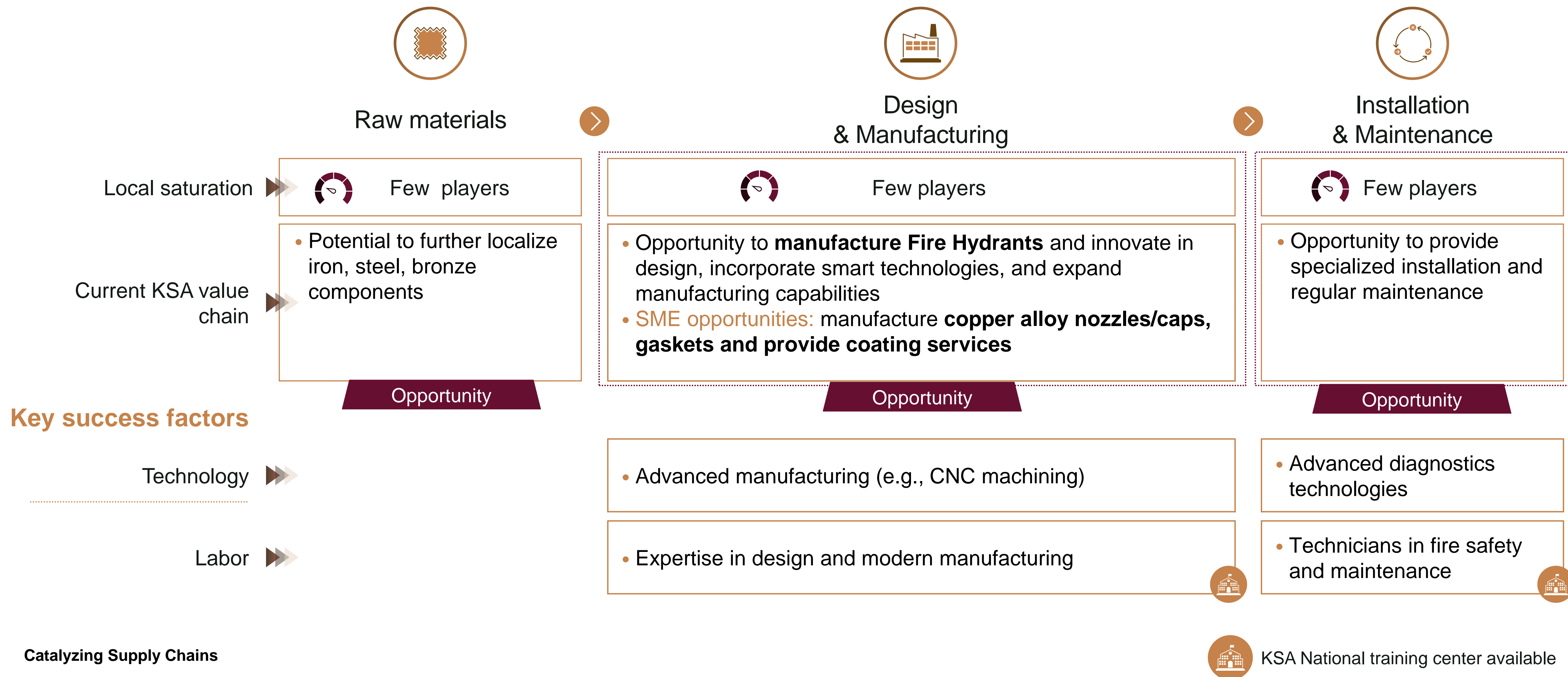
Fire protection workshop

Catalyzing Supply Chains

1. Hospitals, airports, transportation hubs, and megaprojects; 2. Military bases, power plants, and remote industrial sites
Source: Saudi Aramco, Team analysis

Fire Hydrants

Value Chain and Key Localization Opportunities



Fire protection workshop

Fire Hydrants

Investment Opportunity and Enablers

Key enablers in KSA to drive success



Localization incentives: Government programs – e.g., SIDF multipurpose loans, or export tax exemption

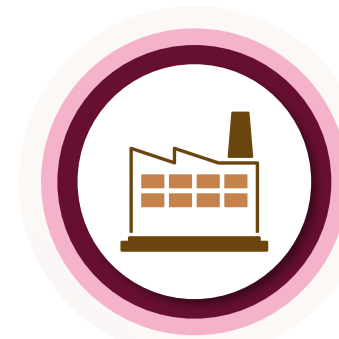


Land and infrastructure: Subsidized land and infrastructure in economic zones (e.g., Modon) reduce setup costs & accelerate

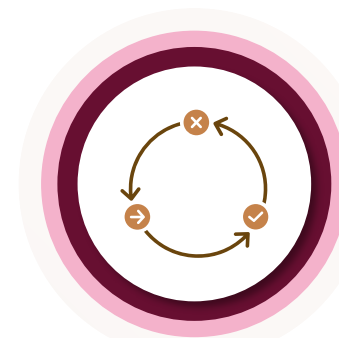


Widely available specialized manpower: NITI provides machinists, maintenance technicians, and equipment operators who can support manufacturing

Where is the opportunity



Design & Manufacturing
 Design and manufacture fire hydrants in KSA
 For SMEs - opportunity to provide key components



Installation & Maintenance
 Provide specialized installation and regular maintenance

Catalyzing Supply Chains

Note: SIDF = Saudi Industrial Development Fund; KACST = King Abdulaziz City for Science and Technology;
 Source: Expert inputs; Team analysis

02

Fire Hydrants Mounted Monitor

Presented by: Khaled AlGhadhban

Fire Hydrants Mounted Monitor Opportunity Profile

1

Fire Hydrants Mounted Monitor present an attractive investment opportunity

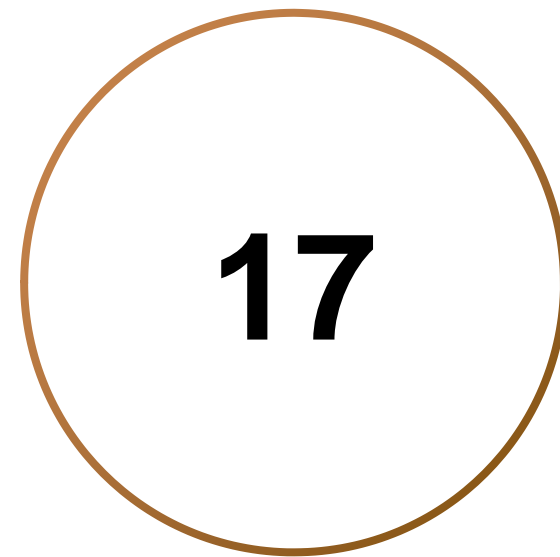
Types



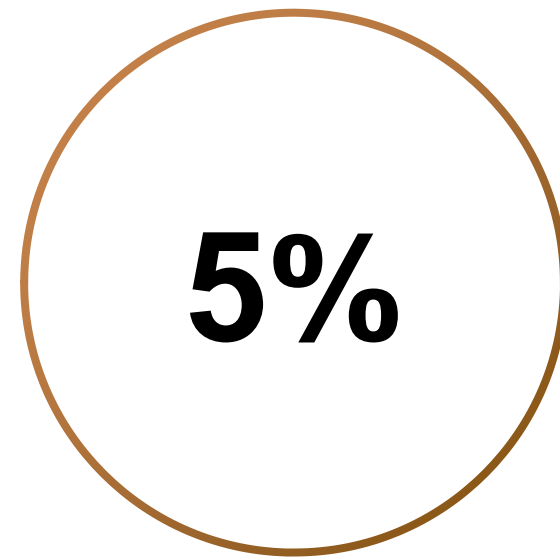
Mounted Monitor

2

Hydrant monitors market is moderately growing; KSA being major market



Estimated 2025 KSA market size. Million USD

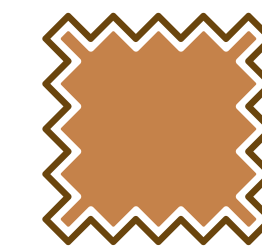


Forecasted 5-year CAGR

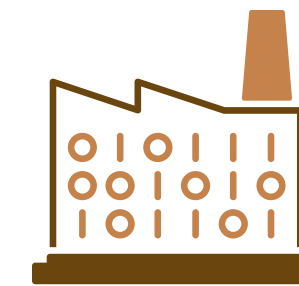
3

Attractive investment opportunities for Hydrant monitors value chain

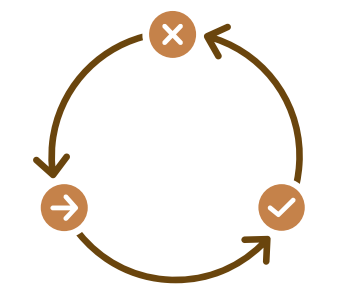
KSA value chain opportunities



Raw materials



Design & Manufacturing



Installation & Maintenance

KSA enablers

- Government localization incentives
- Land and infrastructure
- Wide and qualified talent pool

Fire Hydrants Mounted Monitor

Potential Localized Categories

Type(s)

Mounted Monitor



Applications

Provides fire protection coverage (cooling) for structures and vessels inside refineries and industrial facilities.

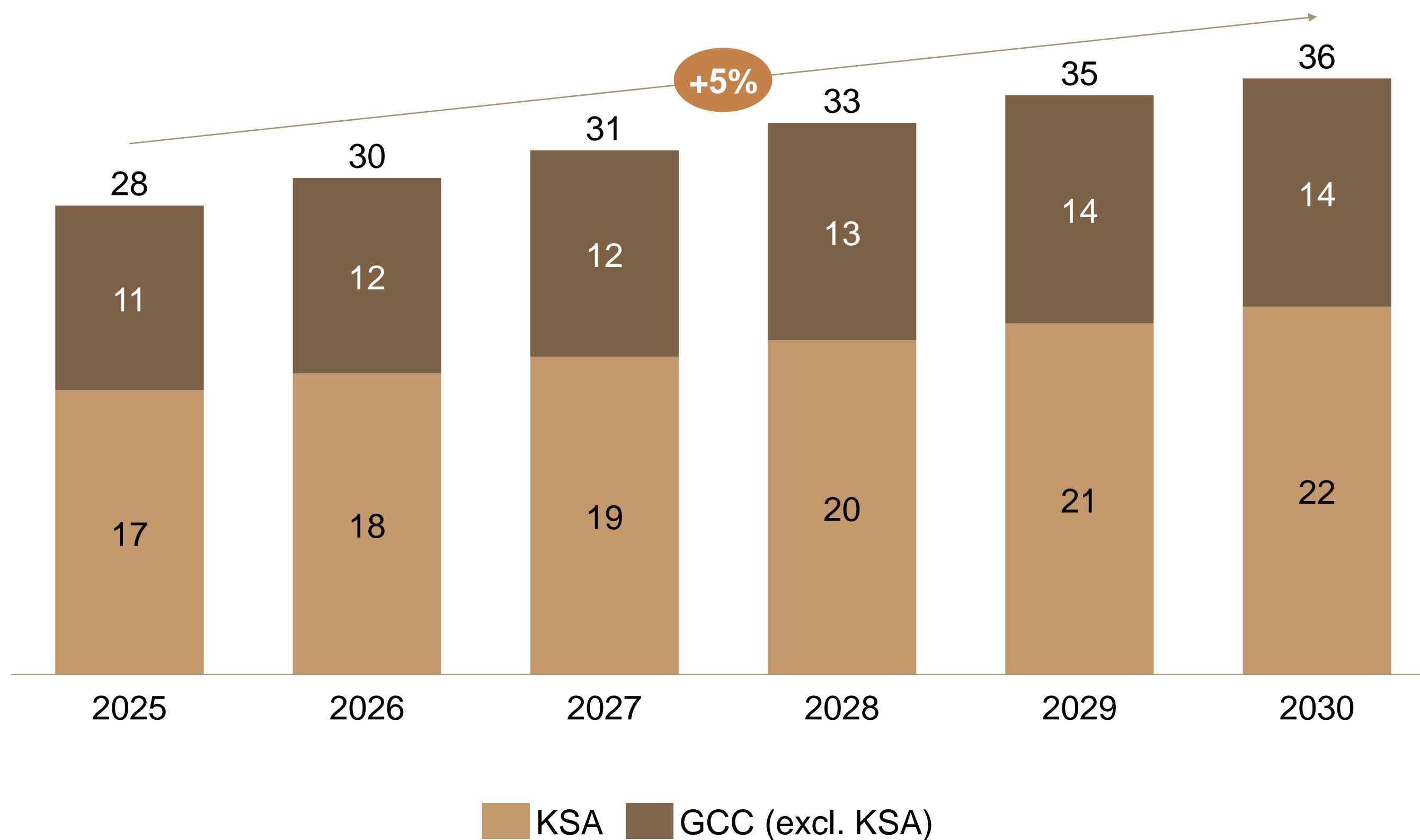
Technical Specifications

- Integral valve with monitor
- 4" 200 psi PR flange base
- Cast brass swivel joints
- **9COM: 6000001314**
- FM approved industrial fixed firefighting monitor system for seawater and hot marine environment
- Complies with 21-SAMSS-016 Firefighting Monitor.

Catalyzing Supply Chains

Fire Hydrants Mounted Monitor Demand, Customers & Drivers

Forecasted KSA and rest of GCC Fire Hydrants Mounted Monitor market 2025-2030 (Million USD)



Hydrants Mounted Monitor customers in KSA

- Commercial & residential real estate
- Industrial & manufacturing facilities
- Critical infrastructure¹
- Government & specialized facilities²

Key KSA demand drivers

- **Industrial expansion:** growth in O&G, petchem., mining, power generation, water desalination

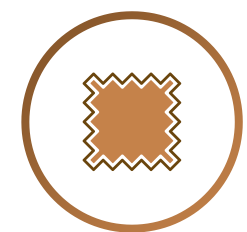
Fire protection workshop

Catalyzing Supply Chains

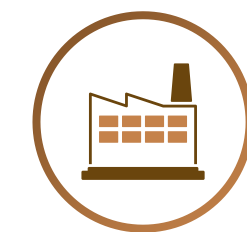
1. Hospitals, airports, transportation hubs, and megaprojects; 2. Military bases, power plants, and remote industrial sites
Source: Saudi Aramco, Team analysis

Fire Hydrants Mounted Monitor

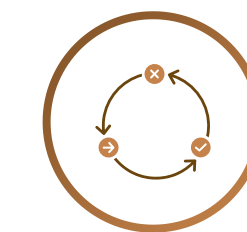
Value Chain and Key Localization Opportunities



Raw materials



Design & Manufacturing



Installation & Maintenance

Local saturation



Few players



Few players



Few players

Current KSA value chain

- Potential to further localize steel, brass, and specialized polymers

- Opportunity to **manufacture Fire Hydrants Mounted Monitor** and innovate in design, incorporate smart technologies, and expand manufacturing capabilities
- **SME opportunities:** manufacture **copper alloy nozzles** and provide **coating services**.

- Opportunity to provide specialized installation and regular maintenance

Opportunity

Opportunity

Opportunity

Key success factors

Technology

- Precision engineering

- Advanced features such as remote control

- Advanced diagnostics technologies

Labor

- Expertise in metallurgy and chemistry

- Expertise in mechanical & fire safety engineering

- Technicians in fire safety and maintenance

Catalyzing Supply Chains



KSA National training center available

Fire protection workshop

Fire Hydrants Mounted Monitor

Investment Opportunity and Enablers

Key enablers in KSA to drive success



Localization incentives: Government programs – e.g., SIDF multipurpose loans, or export tax exemption

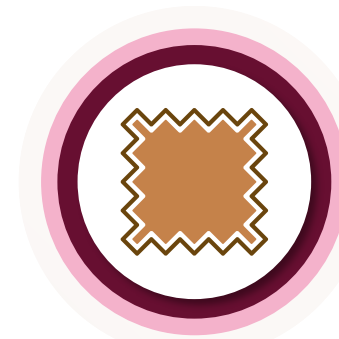


Land and infrastructure: Subsidized land and infrastructure in economic zones (e.g., Modon) reduce setup costs & accelerate



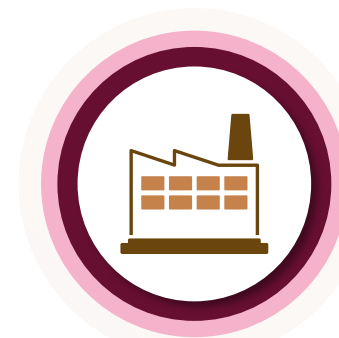
Widely available specialized manpower: NITI provides machinists, maintenance technicians, and equipment operators who can support manufacturing

Where is the opportunity



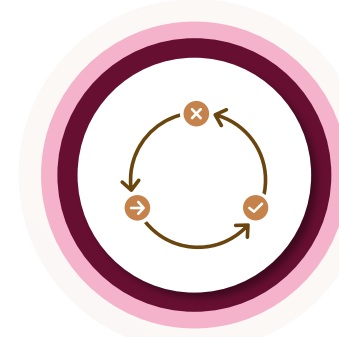
Raw materials

Potential to further localize steel, brass, and specialized polymers



Design & Manufacturing

Design and manufacture fire hydrants mounted monitors in KSA
 For SMEs - opportunity to provide key components



Installation & Maintenance

Provide specialized installation and regular maintenance

Catalyzing Supply Chains

Note: SIDF = Saudi Industrial Development Fund; KACST = King Abdulaziz City for Science and Technology;
 Source: Expert inputs; Team analysis

03 Fire Extinguishers

Presented by: Khaled AlGhadhban

Fire Extinguishers Opportunity Profile

1

Fire Extinguishers present an attractive investment opportunity

Types



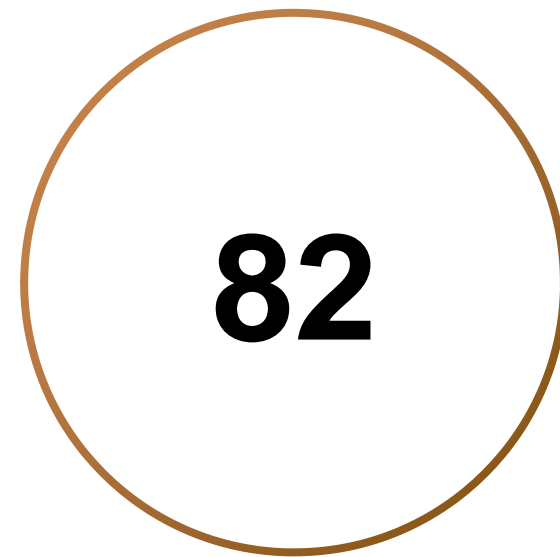
Portable



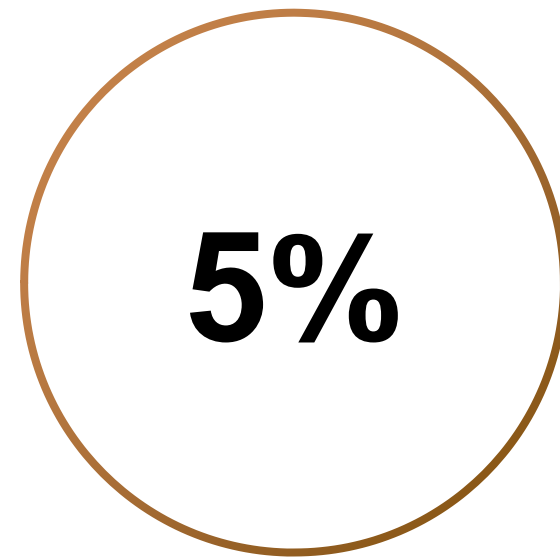
Mobile (Wheeled)

2

Fire extinguishers market is rapidly growing; KSA being major market



Estimated 2025 KSA market size. Million USD

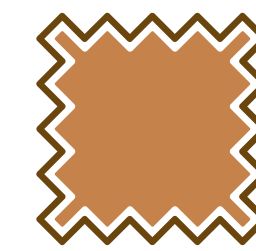


Forecasted 5-year CAGR

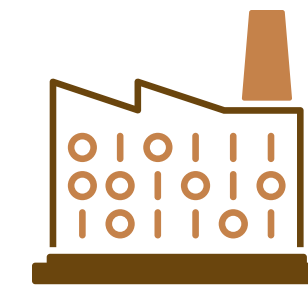
3

Attractive investment opportunities for Fire extinguishers value chain

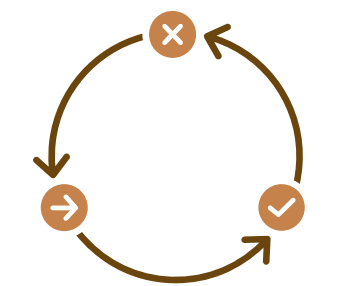
KSA value chain opportunities



Raw materials



Manufacturing & Assembly



Installation & Maintenance

KSA value chain opportunities

- Financial support
- Regulatory incentives
- Technical enablers

Catalyzing Supply Chains

1. Oil, gas, and petrochemical industries where hazardous gases (e.g., hydrogen sulfide, carbon monoxide), and potential fires are a common risk; Source: Saudi Aramco; Team analysis

Fire Extinguishers

Potential Localized Categories

Type(s)

Portable

Mobile (Wheeled)

Key Technical Specifications:



Applications

Residential, industrial sites, vehicles

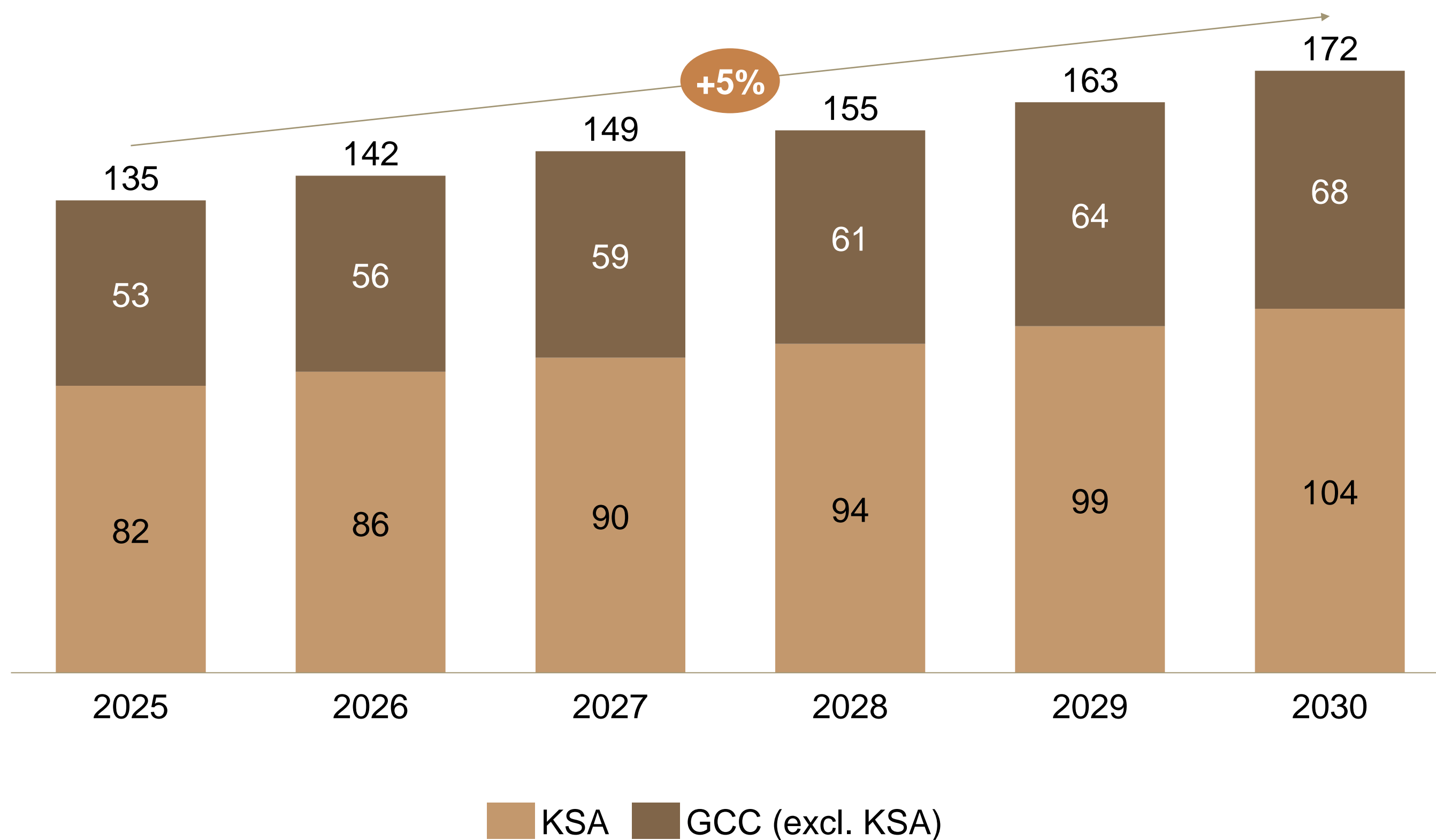
Industrial sites, warehouses, airports

- **9COM: 6000001302**
- ABC Cartridge; **9CAT: 1000124942**
- BC Cartridge; **9CAT: 1000124945**
- CO2 **9CAT: 1000808216**
- ABC Stored Pressure; **9CAT; 1000865991 & 1000121582**
- BC wheeled **9CAT 1000124972**



- SAES-B-019 Portable, Mobile and Special Fixed Firefighting Equipment
- NFPA 10 Standard for Portable Fire Extinguisher
- UL 711 Rating and Fire Testing of Fire Extinguishers
- UL 154 Carbon-Dioxide Fire Extinguishers

Fire Extinguishers Demand, Customers & Drivers

KSA and rest of GCC Fire extinguishers market 2025-2030 (Million USD)



Extinguishers customers in KSA

-  Residential & commercial real estate
-  Oil & Gas facilities
-  Industrial and construction plants
-  Large venues & specialized facilities¹

Key KSA demand drivers

- **Industrial expansion:** growth in O&G, petchem., mining, power generation, water desalination

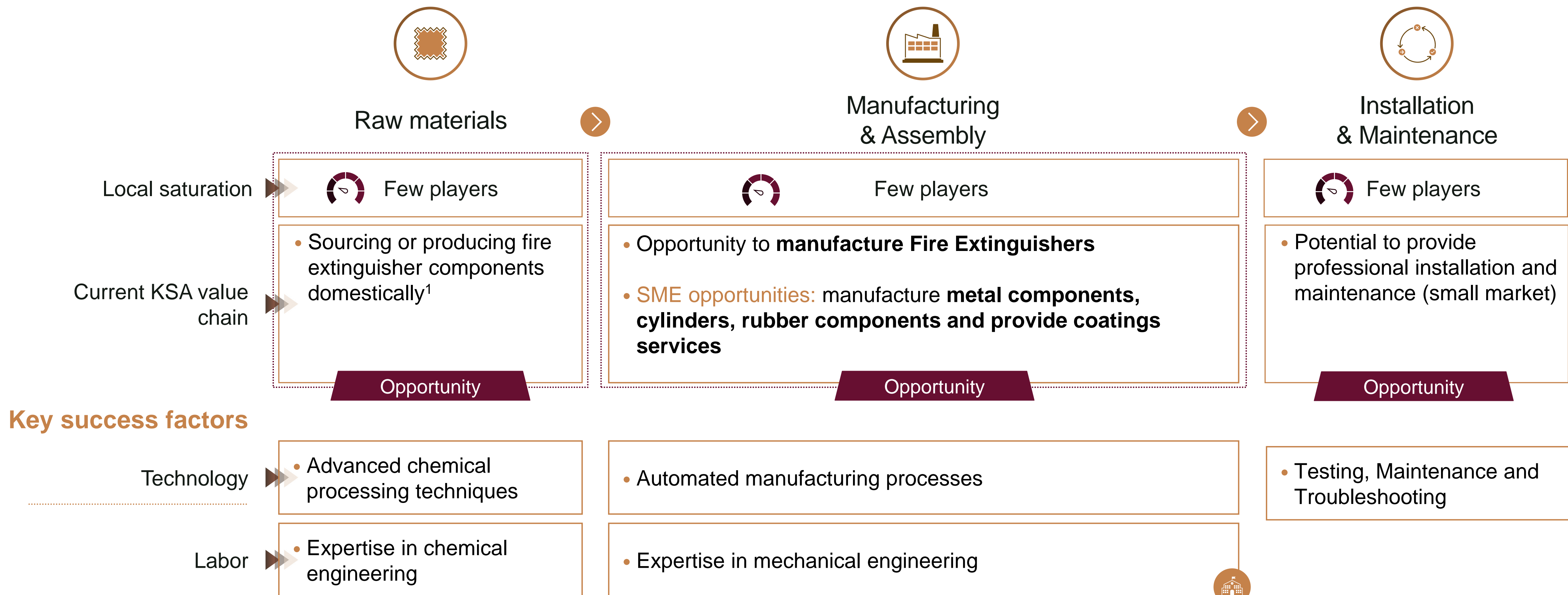
Fire protection workshop

Catalyzing Supply Chains

1. Airports, stadiums, hospitals
Source: Saudi Aramco, Team analysis

Fire Extinguishers

Value Chain and Key Localization Opportunities



Fire protection workshop

Catalyzing Supply Chains



KSA National training center available

1. E.g., Monoammonium phosphate; aluminum/steel for cylinder manufacturing
Source: Data Bridge Market Research; Expert inputs; Team analysis

Fire Extinguishers

Investment Opportunity and Enablers

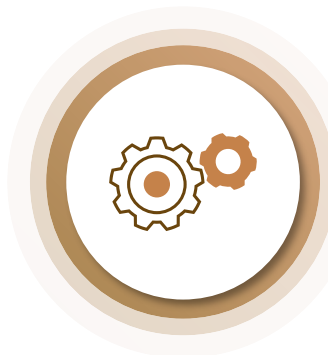
Key enablers in KSA to drive success



Financial support: Access to subsidized capital and financial support from SIDF (e.g., WC loans, 'Afaq' program)

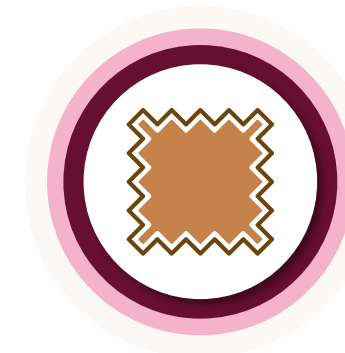


Regulatory incentives: Mandatory local procurement quotas for public and private firefighting needs



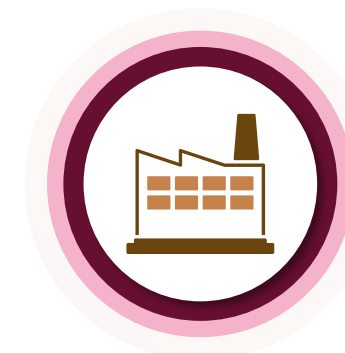
Technical Enablers: Advanced manufacturing support from KACST on technical guidance and infrastructure setup

Where is the opportunity



Raw materials

Source or produce fire extinguisher components domestically¹



Manufacturing & Assembly

Manufacture & assemble **TWO** types of fire extinguishers
 For SMEs - opportunity to provide key components

Catalyzing Supply Chains

Note: SIDF = Saudi Industrial Development Fund; KACST = King Abdulaziz City for Science and Technology; 1. E.g., Monoammonium phosphate; aluminum/steel for cylinder manufacturing; Source: Expert inputs; Team analysis

04

Covers for Fire Extinguishers & Hydrants

Presented by: Dima Alfawaz

Covers for Fire Extinguishers & Hydrants Opportunity Profile

1

Fire Covers present an attractive investment opportunity

Type



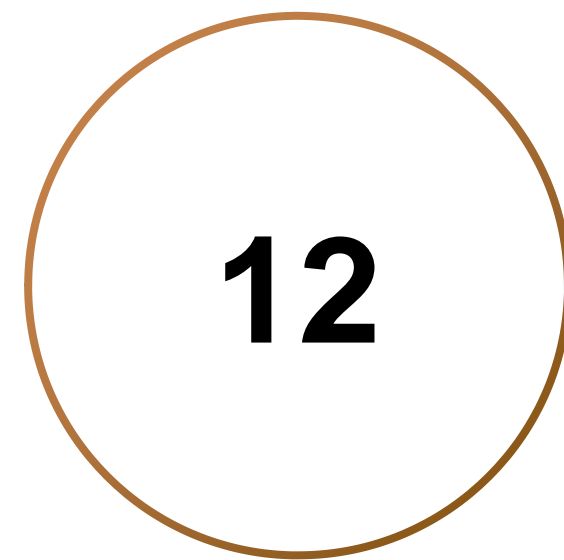
Cover Fire Extinguisher



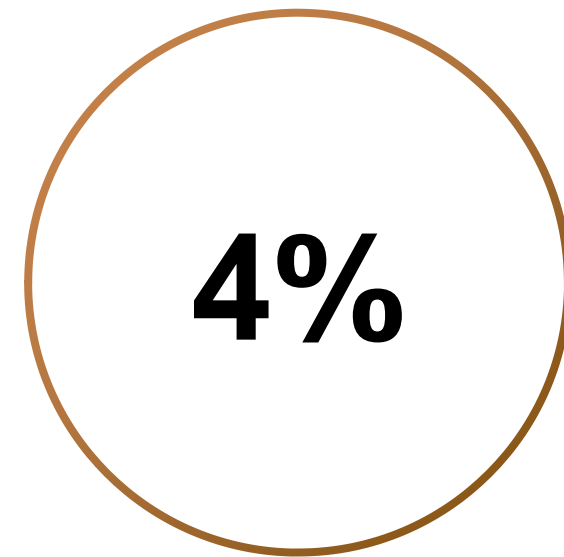
Cover Fire Hydrant

2

KSA being major growing market



Estimated 2025 KSA market size. Million USD

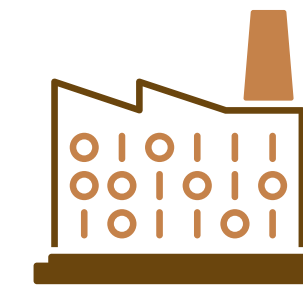


Forecasted 5-year CAGR

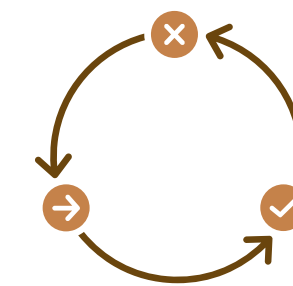
3

Attractive investment opportunities for Covers value chain

KSA value chain opportunities



Manufacturing & Assembly



Installation & Maintenance

KSA enablers

- Financial support
- Regulatory incentives
- Technical enablers

Catalyzing Supply Chains

1. Oil, gas, and petrochemical industries where hazardous gases (e.g., hydrogen sulfide, carbon monoxide), and potential fires are a common risk;
 Source: Source: Saudi Aramco, Team analysis

Covers for Fire Extinguishers & Hydrants

Potential Localized Categories

Type(s)



Applications

Used for industrial areas, parking lots, public spaces, external walls

Technical Specifications

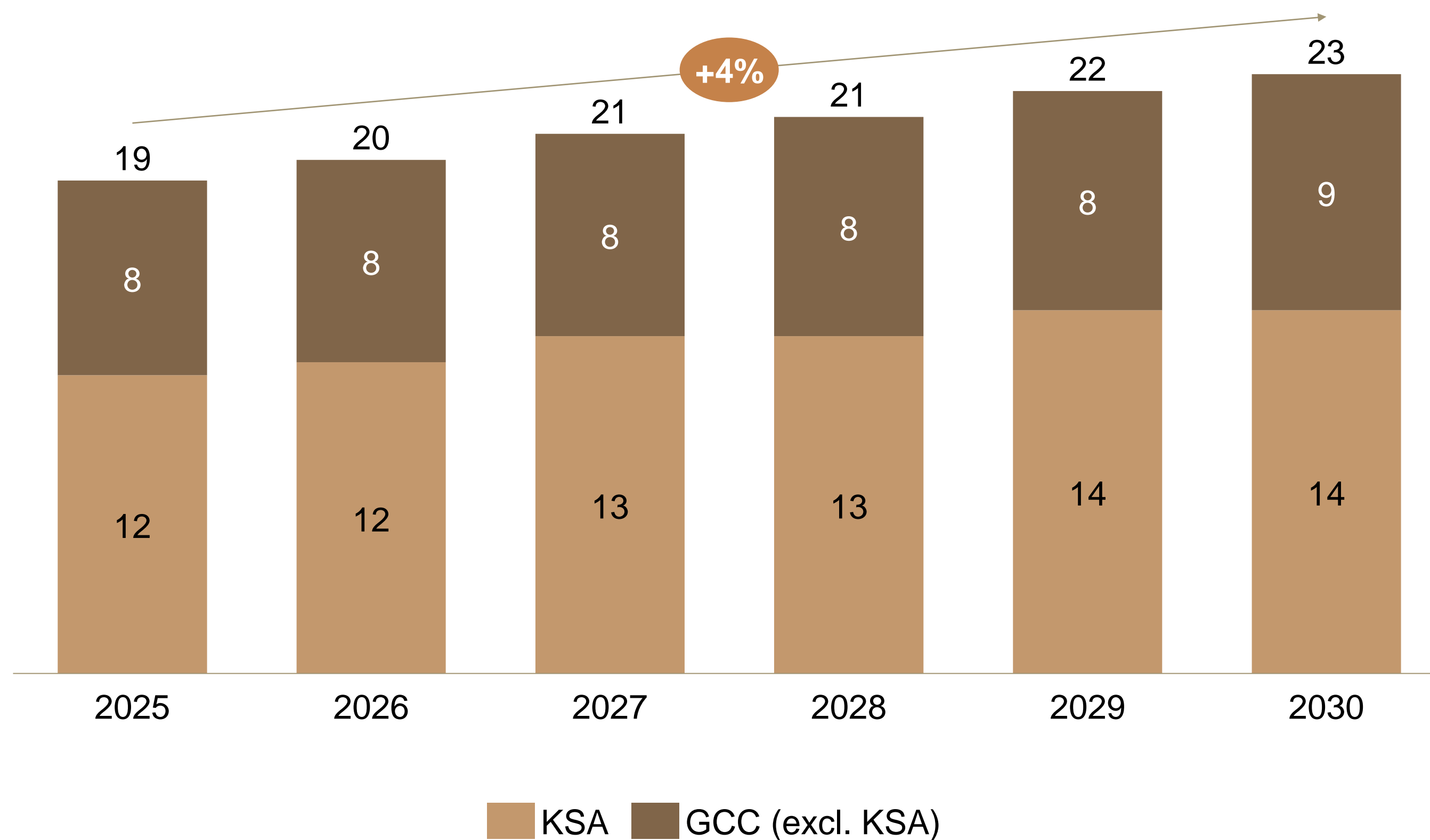
- COVER, FIRE EXTINGUISHER (10lb, 30lb and 125lb)
- **9CATS:1000124370, 1000124318, 1000124372**
- COVER, HYDRANT
- **9CATS: 1001004725 and 1001004724**
- HEAVY DUTY.
- VINYL,RED COLOR (YELLOW FOR OUT OF SERICE HYDRANT)
- FLAME RESISTANCE (inside hydrocarbon plants).
- HIGH UV RESISTANCE.
- REFLECTIVE TEXT AND PICTURES.

Catalyzing Supply Chains


Covers for Fire Extinguishers & Hydrants

Demand, Customers & Drivers

Forecasted KSA and rest of GCC Fire hydrant/extinguisher covers market 2025-2030 (Million USD)



Fire Extinguisher/Hydrant covers customers in KSA

-  Residential & commercial real estate
-  Oil & Gas facilities
-  Industrial and construction plants
-  Large venues & specialized facilities¹

Key KSA demand drivers

- **Industrial expansion:** growth in O&G, petchem., mining, power generation, water desalination

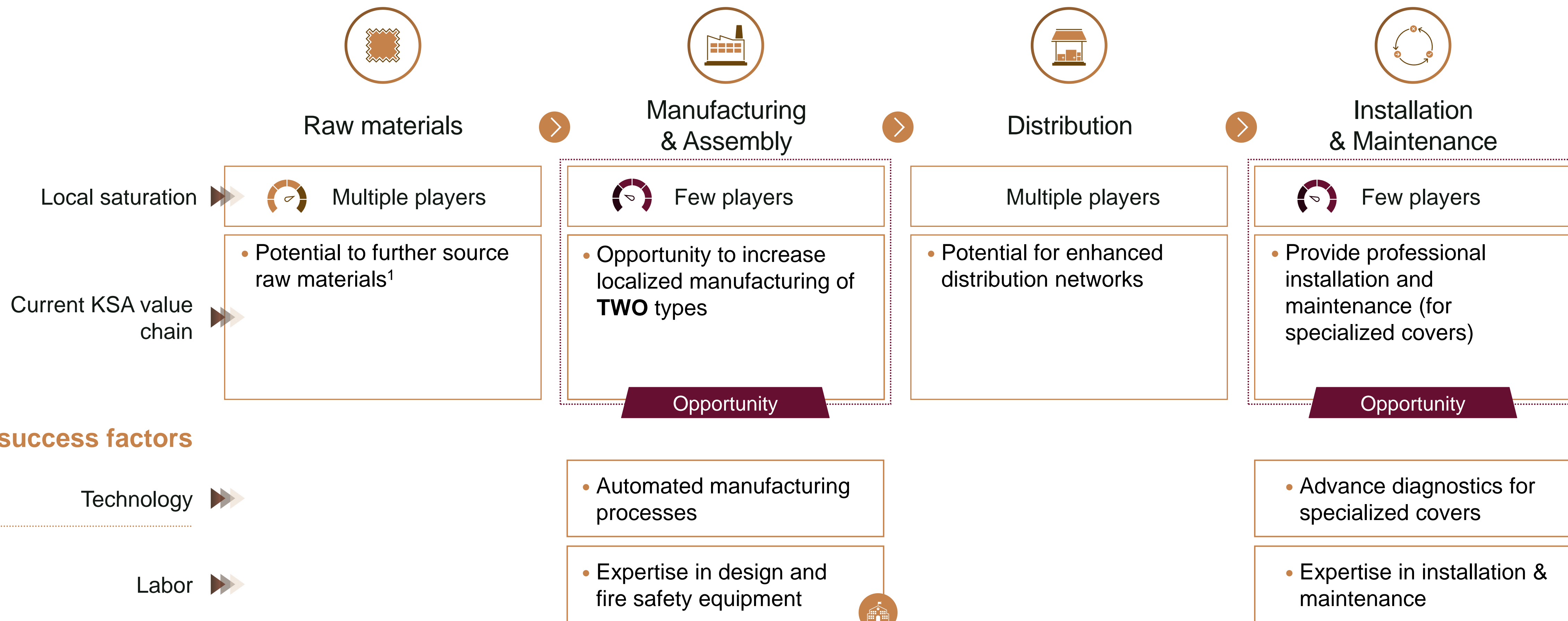
Fire protection workshop

Catalyzing Supply Chains

1. Airports, stadiums, hospitals
Source: Saudi Aramco, Team analysis

Covers for Fire Extinguishers & Hydrants

Value Chain and Key Localization Opportunities



Fire protection workshop

Catalyzing Supply Chains

KSA National training center available

1. E.g., PVC, nylon, metal components – all already relatively present in KSA
Source: Data Bridge Market Research; Expert inputs; Team analysis

Covers for Fire Extinguishers & Hydrants

Investment Opportunity and Enablers

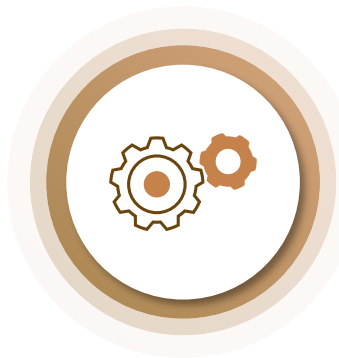
Key enablers in KSA to drive success



Financial support: Access to subsidized capital and financial support from SIDF (e.g., WC loans, 'Afaq' program)



Regulatory incentives: Mandatory local procurement quotas for public and private needs

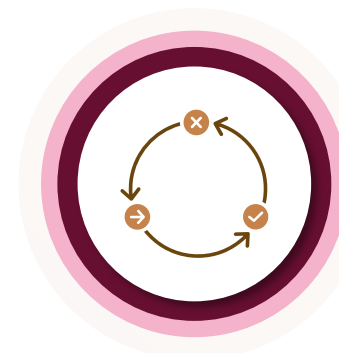


Technical enablers: Advanced manufacturing support from KACST on technical guidance and infrastructure setup

Where is the opportunity



Manufacturing & Assembly
 Manufacture & assemble **TWO** types of fire hydrant/extinguisher cover



Installation & Maintenance
 Provide professional installation and maintenance (for specialized covers)

Catalyzing Supply Chains

05 Foam Generation Skid

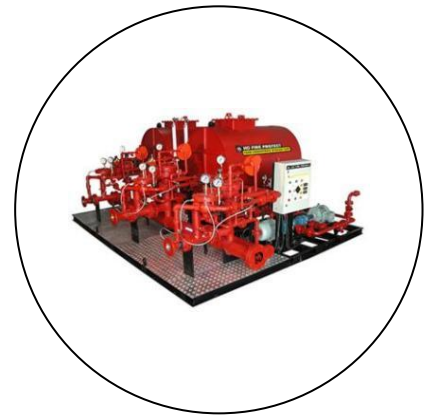
Presented by: Dima Alfawaz

Foam Generation Skid Opportunity Profile

1

Foam Generation Skid present an attractive investment opportunity

Function

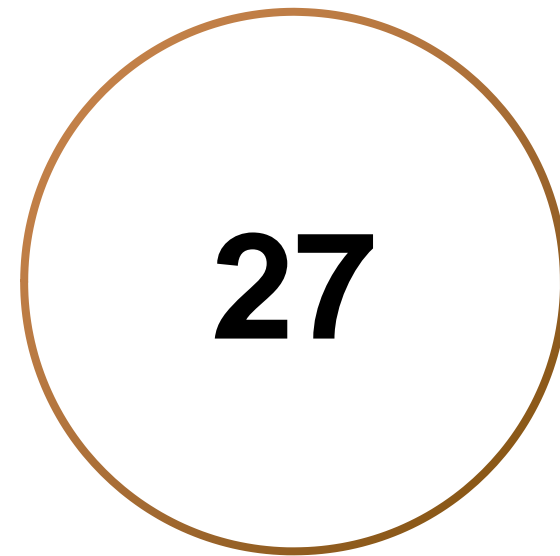


Fixed Foam Generation Skids

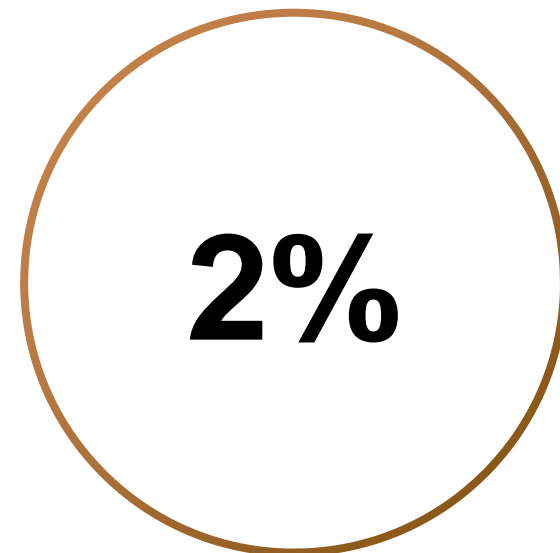
It is a foam proportioning system that mixes foam concentrate with water

2

Foam generation skid market is moderately growing; KSA being major market



Estimated 2025 KSA market size. Million USD

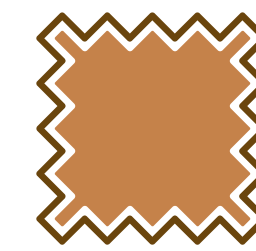


Forecasted 5-year CAGR

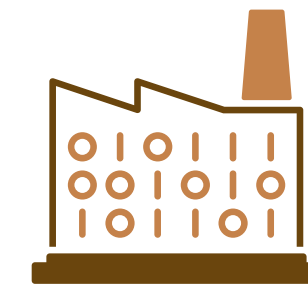
3

Attractive investment opportunities for Foam generation skid value chain

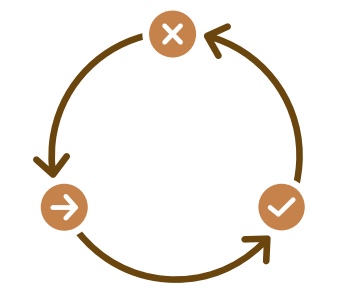
KSA value chain opportunities



Raw materials



Manufacturing & Assembly



Installation & Maintenance

KSA enablers

- Financial Support
- Export Duty Exemptions
- Widely available specialized labor

Catalyzing Supply Chains

1. Oil, gas, and petrochemical industries where hazardous gases (e.g., hydrogen sulfide, carbon monoxide), and potential fires are a common risk; Source: Saudi Aramco, Team analysis

Foam Generation Skid

Potential Localized Categories

Type(s)

Fixed Foam Skids



Applications

Used by Oil and Gas Industries and marines berth

Key Technical Specifications:

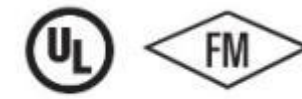
- Fixed foam generating skids. In-line balanced proportioning systems, balanced pressure proportioning systems and coupled water-motor.
- Must be UL/FM listed/approved components for use with the intended foam. Foam concentrate pumps shall be UL listed and FM approved rotary gear type
- For mixing foam concentrate with water at a fixed proportioning rate and control the activation of foam system.
- SAES-B-018 Foam Systems
- NFPA 11 Standard for the Installation of Low, Medium, and High-Expansion Fire Fighting Foam
- 9COM: **6000001308**

Catalyzing Supply Chains

Foam Generation Skid SME Opportunities

Components of Foam Generation Skid

- Foam Proportioner
- Balancing Diaphragm
- Foam Tank (UL/FM not required)
- Foam Pump
- Pump Controller
- Deluge Valve
- Balancing Valve



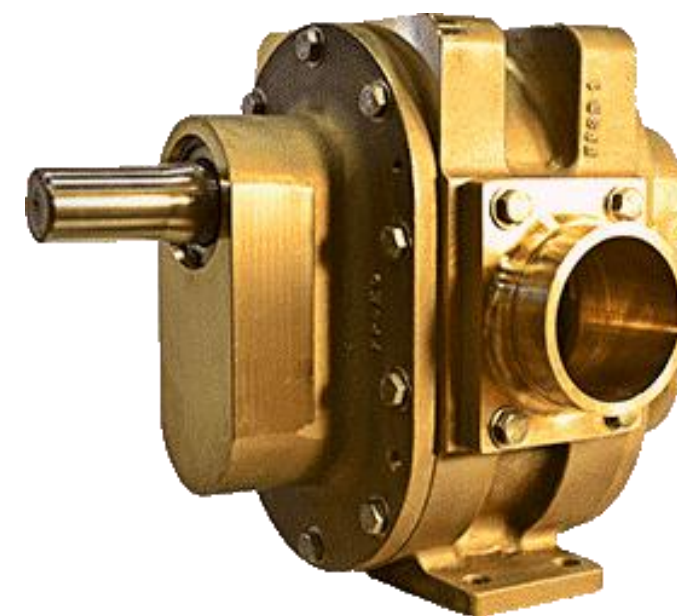
Foam Proportioner



Balancing Diaphragm



Balance Valve



Foam Pump



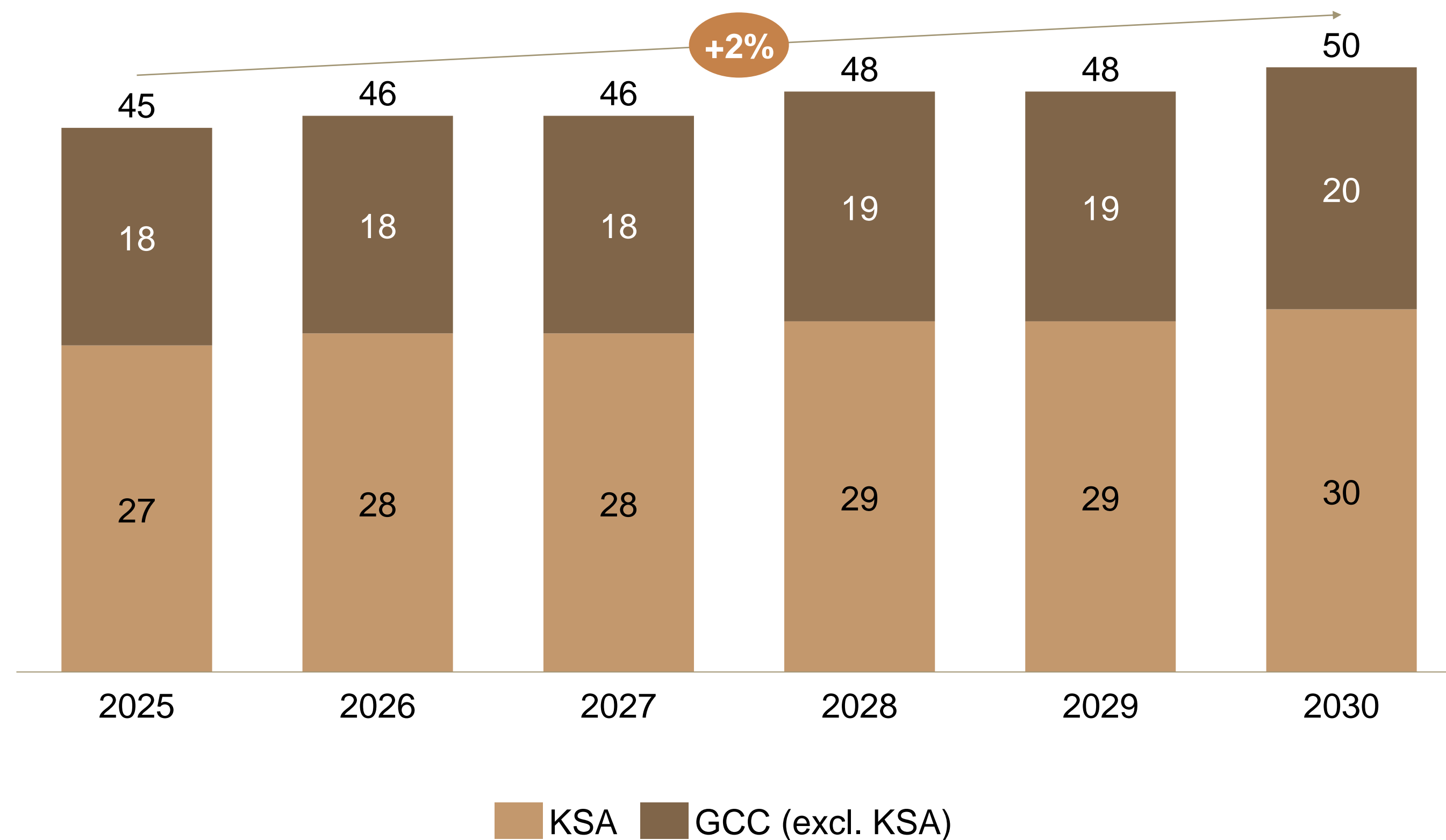
Foam Tank





Deluge Valve

Foam Generation Skid Demand, Customers & Drivers

Forecasted KSA and rest of GCC Foam generation skid market 2025-2030 (Million USD)



Foam generation skid customers in KSA

-  Maritime industry
-  Oil & Gas facilities
-  Industrial, power, construction plants
-  Aviation sector

Key KSA demand drivers

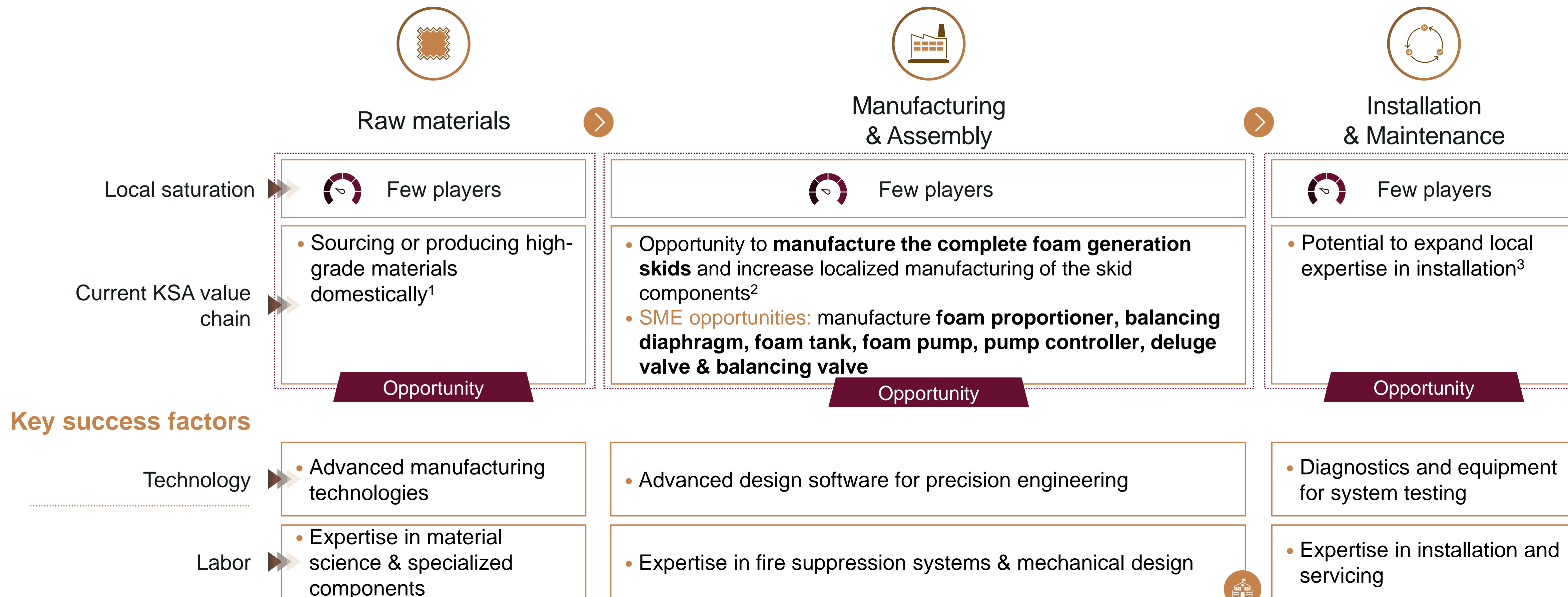
- **Industrial expansion and diversification:** growth in O&G, petchem., manufacturing, power generation, water desalination

Fire protection workshop

Catalyzing Supply Chains

Foam Generation Skid

Value Chain and Key Localization Opportunities



Fire protection workshop

Catalyzing Supply Chains

KSA National training center available

1. E.g., stainless steel, aluminum, electronic components; 2. Foam Proportioner, Balancing Diaphragm, etc.; 3. Only some specialized service providers are available, affiliated with OEMs or intl. firms
Source: Expert inputs; Team analysis

Foam Generation Skid

Investment Opportunity and Enablers

Key enablers in KSA to drive success



Financial support: Access to subsidized capital and financial support from SIDF (e.g., WC loans, 'Afaq' program)

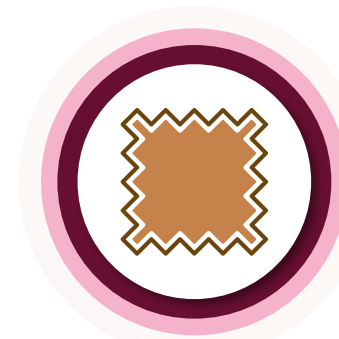


Export duty exemptions: Custom duties exemption on machinery and raw materials via the Industrial Center



Widely available specialized labor: NCTC provides machinists, maintenance technicians, and equipment operators who can support manufacturing

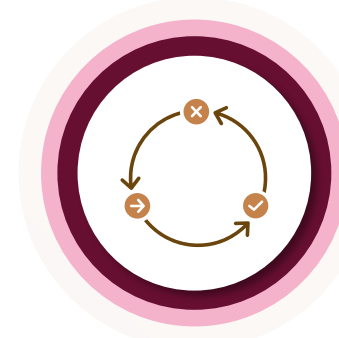
Where is the opportunity



Raw materials
 Source or produce high-grade materials domestically¹



Manufacturing & Assembly
 Manufacture the complete foam generation skids and its components
 For SMEs - opportunity to provide key components



Installation & Maintenance
 Expand local expertise in installation, decreasing reliance on international players

Catalyzing Supply Chains

1. Foam Proportioner, Balancing Diaphragm, etc

Note: SIDF = Saudi Industrial Development Fund; NCTC = National Construction Training Center;

Source: Expert inputs; Team analysis

06

Fire Alarm and Detection Systems

Presented by: Dima Alfawaz

Fire Alarm and Detection Systems Opportunity Profile

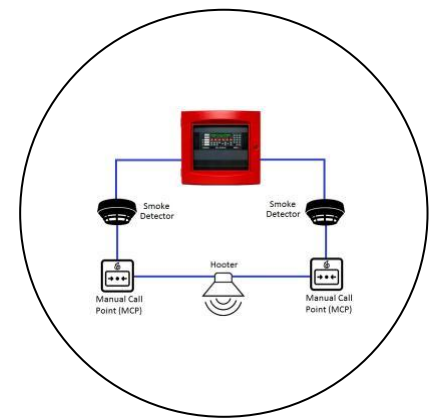
1

Fire Alarm and Detection present an attractive investment opportunity

Types



Standalone



Addressable

2

Alarms & Detection market is moderately growing; KSA being major market

84

Estimated 2025 KSA market size. Million USD

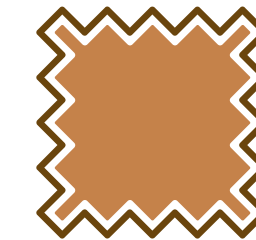
3%

Forecasted 5-year CAGR

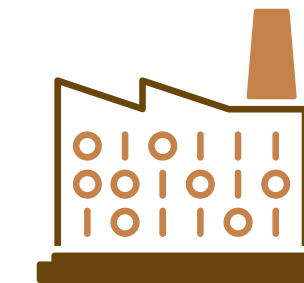
3

Attractive investment opportunities for Alarms & Detection value chain

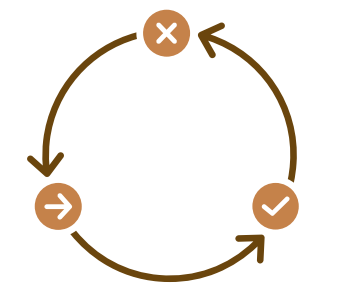
KSA value chain opportunities



Raw materials



Manufacturing & Assembly



Installation & Maintenance

KSA enablers

- Localization incentives
- Price preferential
- Widely available specialized labor

Catalyzing Supply Chains

1. Oil, gas, and petrochemical industries where hazardous gases (e.g., hydrogen sulfide, carbon monoxide), and potential fires are a common risk
Source: Saudi Aramco, Team analysis

Fire Alarm and Detection Systems

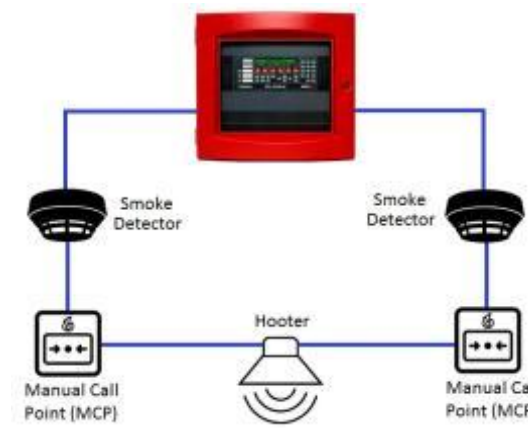
Potential Localized Categories

Type(s)

Standalone



Addressable



Key Technical Specifications:

- 9COM: **6000001301** and **6000012230**
- 9CAT: **1000884779** and **1000123299**

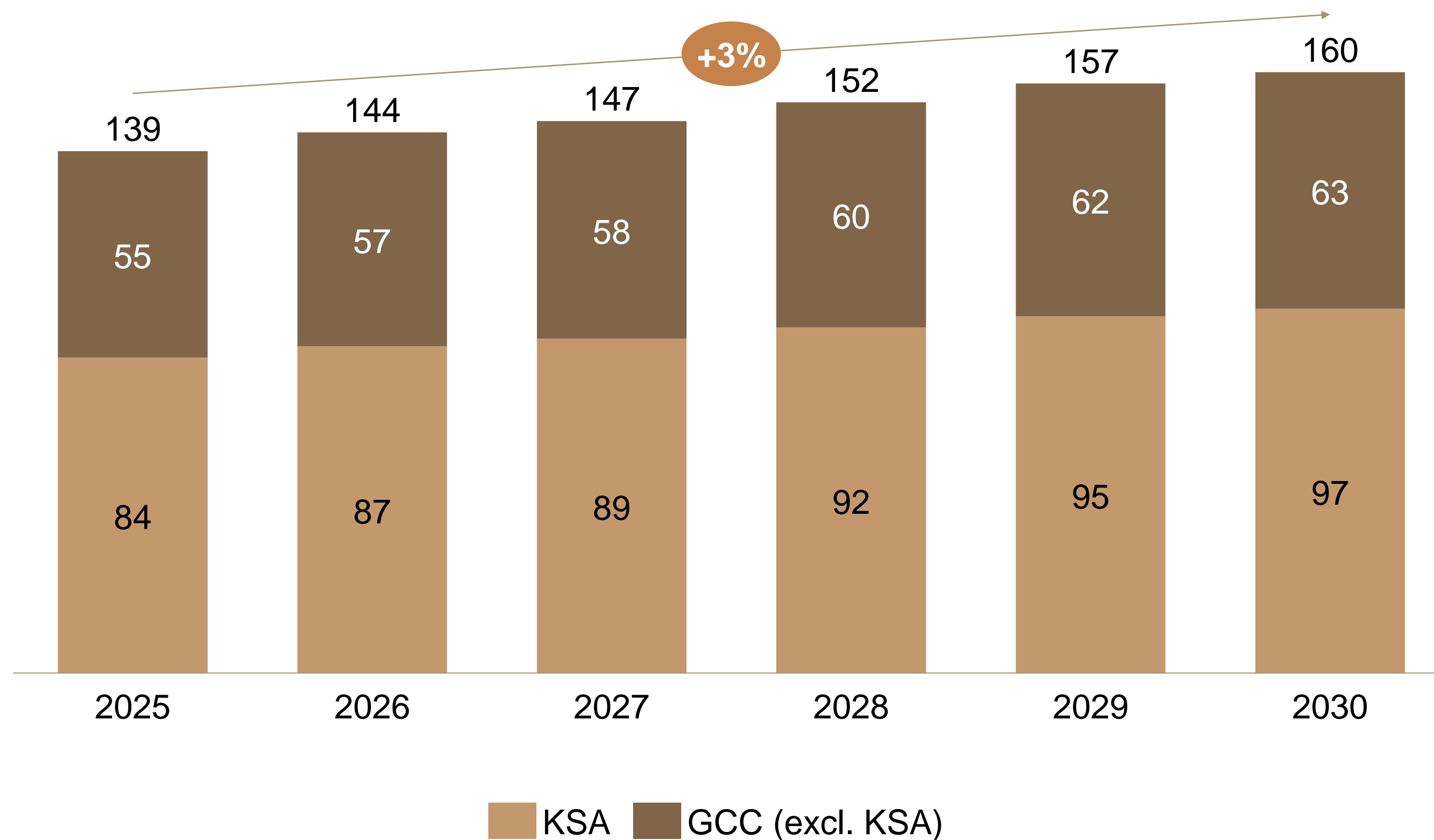
Applications

Used by Oil and Gas Industries and Commercial Applications

- Detector fire protection; Smoke heat, Radiant energy detectors type
- UL-LISTED, FM-APPROVED NFPA 70, NFPA 72 (LAST ED) AND 21-SAMSS-17
- Include linear, spot-type, PROJECTED BEAM, IR/IR/IR, LASER, AIR-SAMPLING DETECTORS, FIRE ALARM CONTROL PANELS, PULL STATIONS AND NOTIFICATION DEVICES.
- Addressable performance of CLASS A (SLC) AND CLASS A (NAC)
- For industrial and commercial applications

Fire Alarm and Detection Systems Demand, Customers & Drivers

Forecasted KSA and rest of GCC Fire Alarms and Detection Systems market 2025-2030 (Million USD)



Fire Alarms and Detection Systems customers in KSA

- Marine berths
- Oil & Gas facilities
- Industrial, power, construction plants
- Large venues & specialized facilities¹

Key KSA demand drivers

- **Industrial expansion:** growth in O&G, petchem., mining, power generation, water desalination

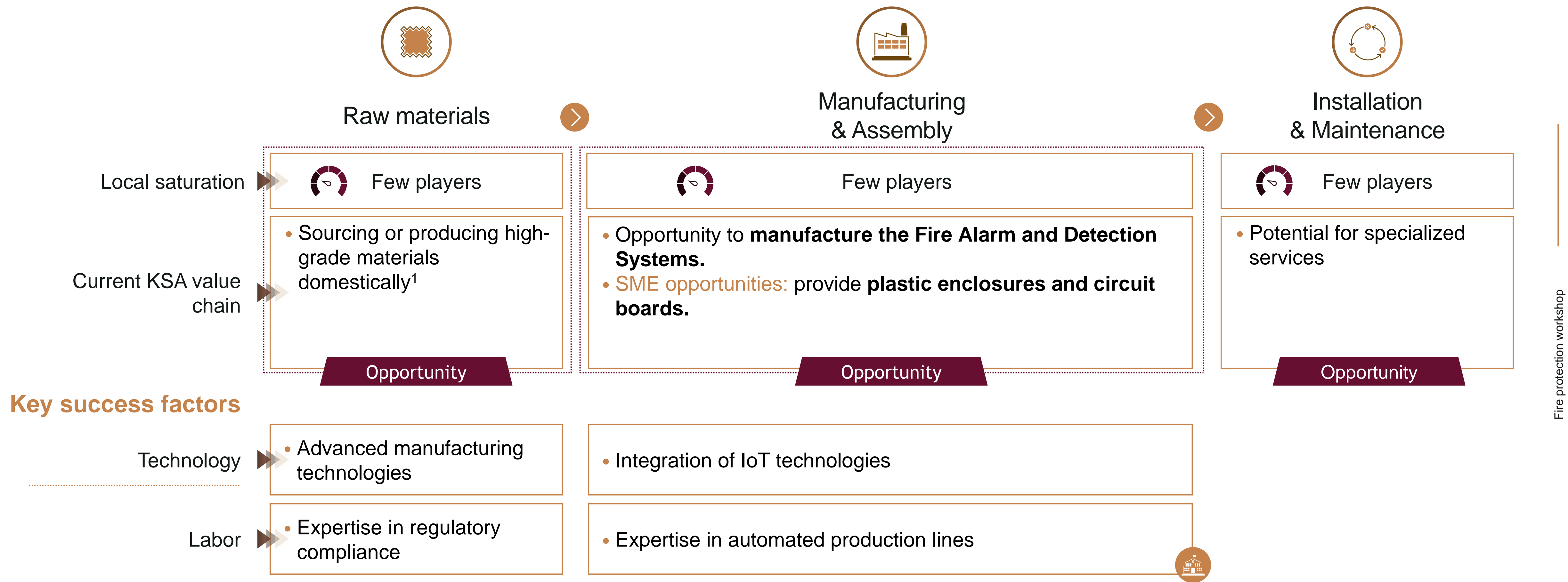
Fire protection workshop

Catalyzing Supply Chains

1. Airports, stadiums, hospitals.
Source: Saudi Aramco, Team analysis


Fire Alarm and Detection Systems

Value Chain and Key Localization Opportunities



Key success factors

Catalyzing Supply Chains

 KSA National training center available

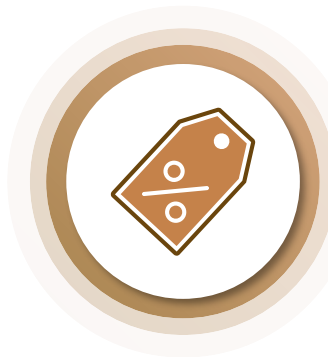
1. E.g., electronic components such as sensors & microcontrollers, wirings, metal housing, etc.
Source: Expert inputs; Team analysis

Fire Alarm and Detection Systems Investment Opportunity and Enablers

Key enablers in KSA to drive success



Localization incentives: Government programs – e.g., SIDF multipurpose loans, or export tax exemption

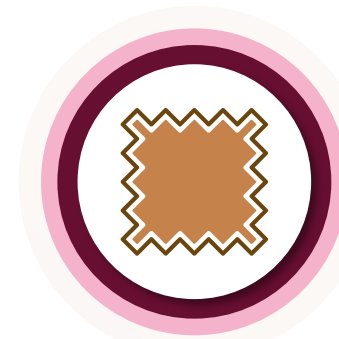


Price preferential: 10% lower price for locally manufactured products by Local Content & Government Procurement Authority



Widely available specialized labor: NITI provides machinists, maintenance technicians, and equipment operators who can support manufacturing

Where is the opportunity



Raw materials
 Source or produce high-grade materials domestically¹



Manufacturing & Assembly
 Manufacture and assemble Fire Alarm and Detection Systems
 For SMEs - opportunity to provide spare parts and components

Catalyzing Supply Chains

Note: SIDF = Saudi Industrial Development Fund; NITI = National Industrial Training Institute; 1. E.g., electronic components such as sensors & microcontrollers, wirings, metal housing, etc.

Source: Expert inputs; Team analysis

07

Fire Stopping Barriers

Presented by: Dima Alfawaz

Fire Stopping Barriers Opportunity Profile

1

Fire Stopping Barriers present an attractive investment opportunity

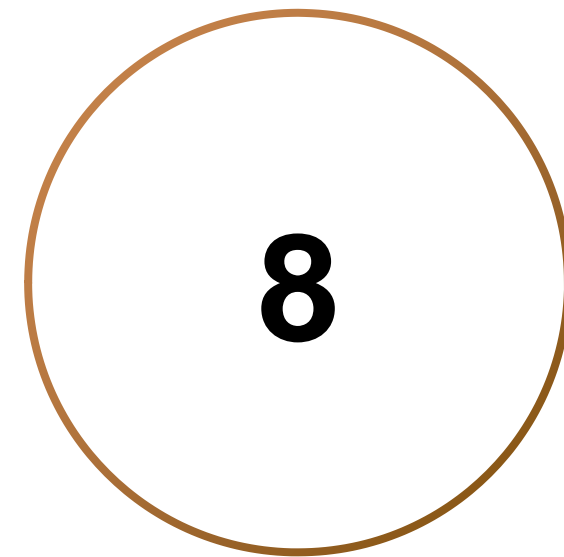
Types



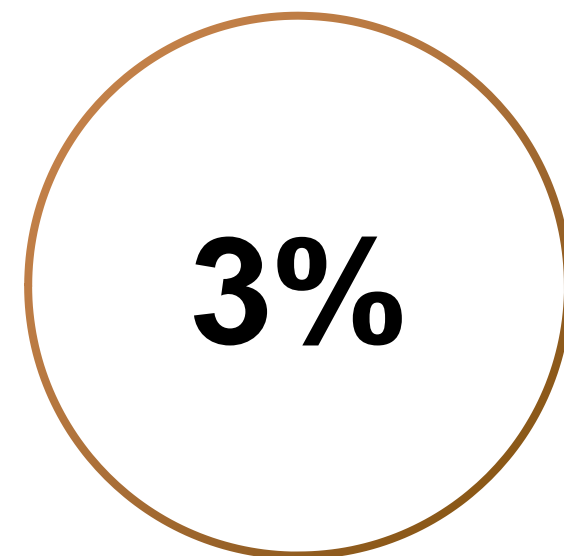
Fire stopping barriers

2

Fire stopping barriers market is moderately growing; KSA being major market



Estimated 2025 KSA market size. Million USD

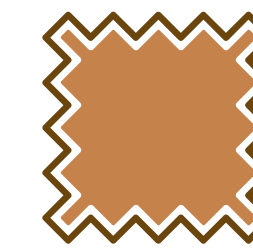


Forecasted 5-year CAGR

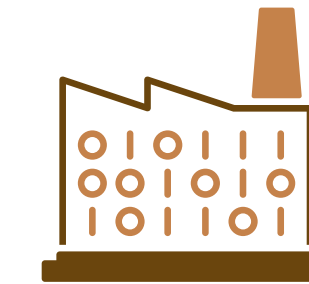
3

Attractive investment opportunities for Fire stopping barriers value chain

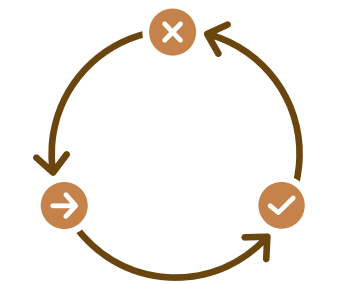
KSA value chain opportunities



Raw materials



Manufacturing & Assembly



Installation & Maintenance

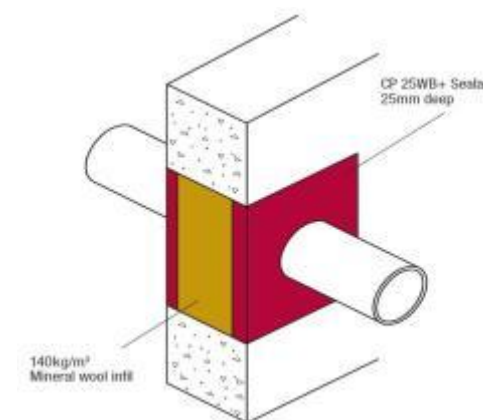
KSA enablers

- Financial support
- Land and infrastructure
- Technical enablers

Fire Stopping Barriers

Potential Localized Categories

Fire stopping barriers



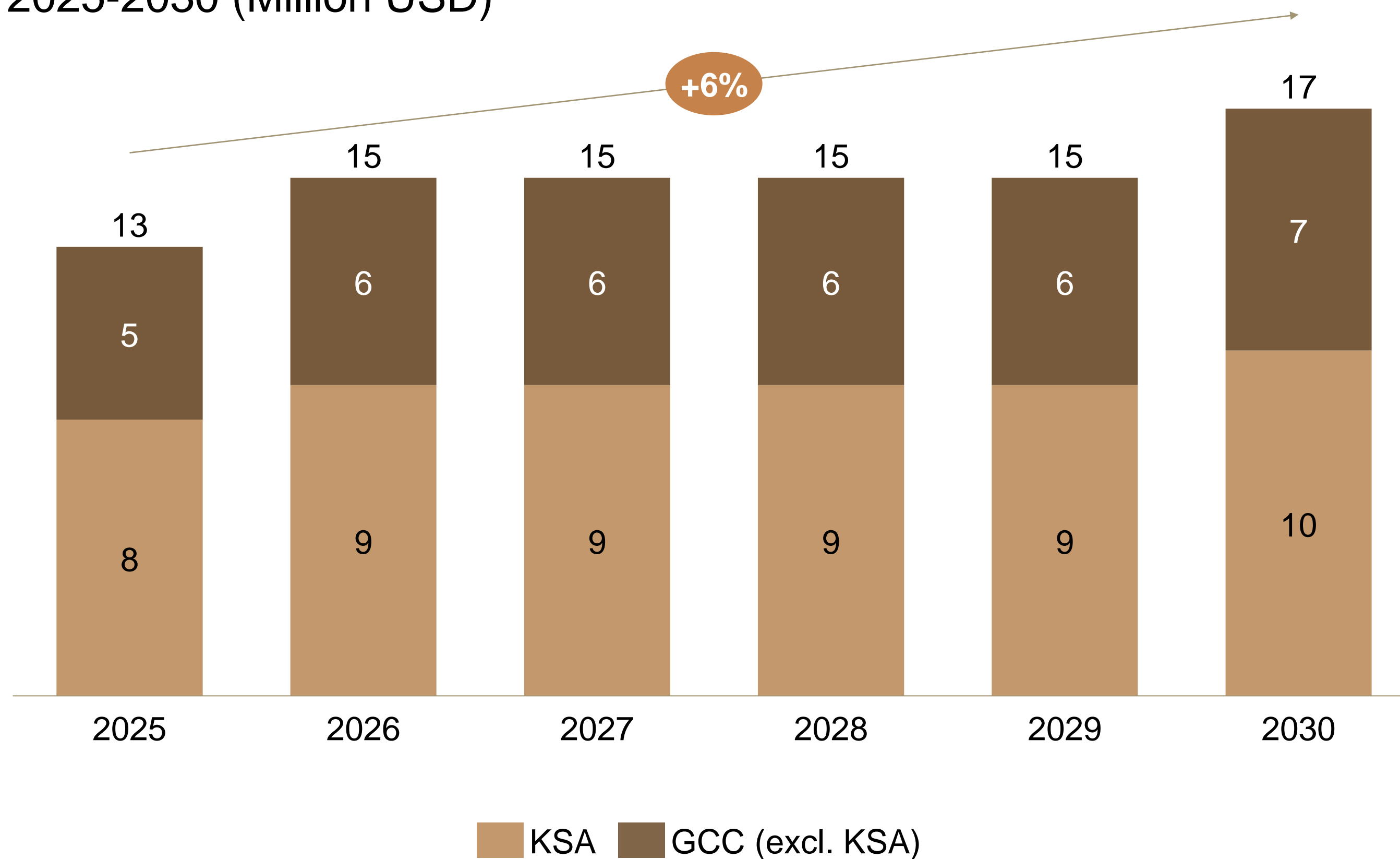
Used by Oil and Gas Industries and Commercial Applications

Key Technical Specifications:

- 9COM: **6000001331**
- Comply with SAES-M-100 latest edition.
- BARRIER; FIRE STOPPING TYPE, BARRIERS, MULTI-CABLE TRANSIT SYSTEM INCLUDING SEALANTS AND SPRAYS.
- Through penetration firestop systems shall be listed according to ASTM E814 or UL 1479
- Through penetration firestop systems and devices used for plant buildings subject to hydrocarbon fires shall be listed according to UL 1709 for hydrocarbon fires.
- Fire scenarios involving hydrocarbon pool fire exposures shall utilize fire protection methods according to UL 1709 or ASTM E1529.

Fire Stopping Barriers Demand, Customers & Drivers

Forecasted KSA and rest of GCC Fire stopping barriers market 2025-2030 (Million USD)



Fire stopping barriers customers in KSA

-  Facility Management companies
-  Oil & Gas facilities
-  Industrial and construction plants
-  Large venues & specialized facilities¹

Key KSA demand drivers

- **Rapid urbanization:** megaproject infrastructure and real estate developments
- **Firm regulations:** SBC mandates increasing fire safety regulations

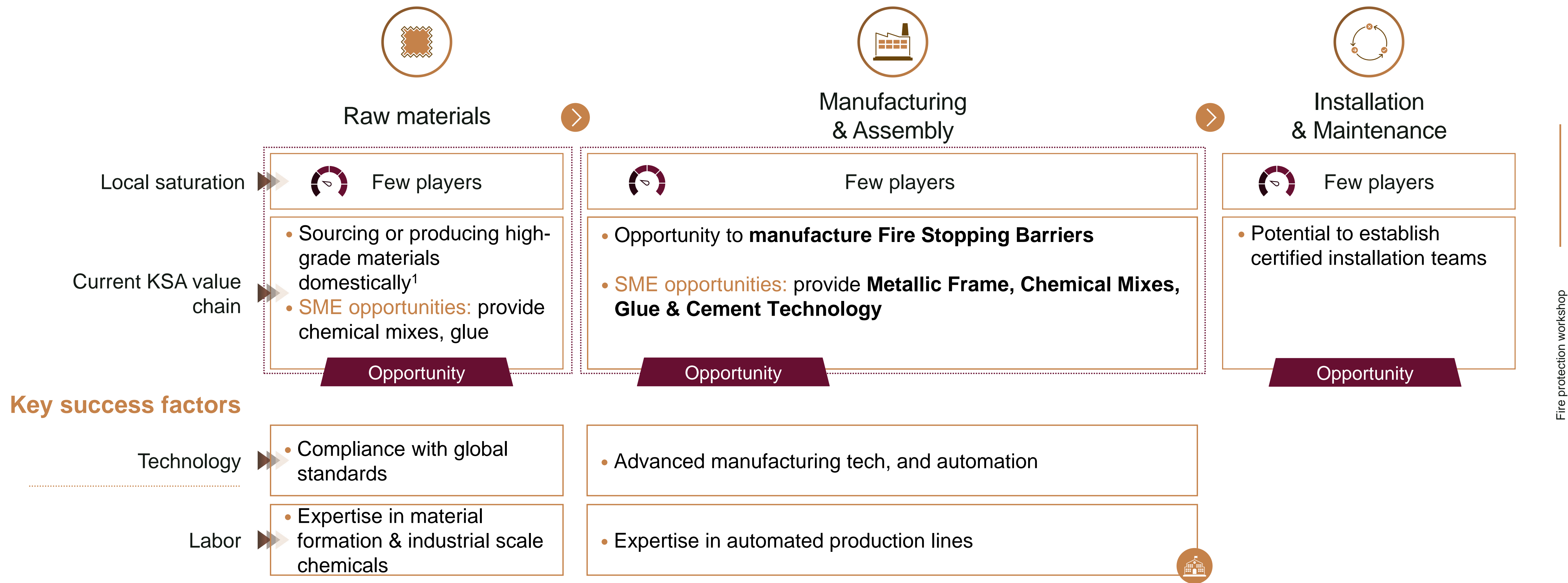
Fire protection workshop

Catalyzing Supply Chains

SBC = Saudi Building Code
Source: Saudi Aramco, Team analysis

Fire Stopping Barriers

Value Chain and Key Localization Opportunities



Fire protection workshop

Catalyzing Supply Chains

KSA National training center available

1. E.g., intumescent compounds, coatings, mineral wool, etc.
Source: Expert inputs; Team analysis

Fire Stopping Barriers

Investment Opportunity and Enablers

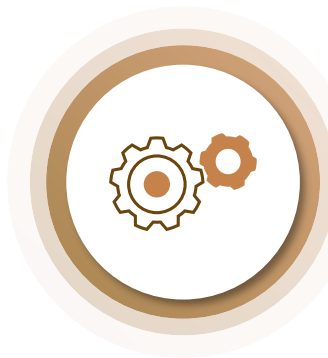
Key enablers in KSA to drive success



Financial support: Access to subsidized capital and financial support from SIDF (e.g., WC loans, 'Afaq' program)

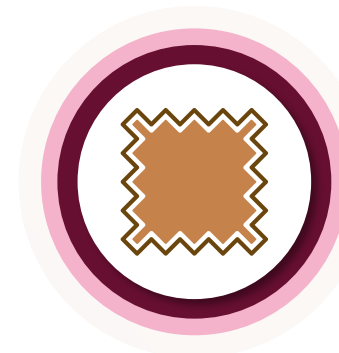


Land and infrastructure: Subsidized land and infrastructure in economic zones (e.g., Modon) reduce setup costs & accelerate



Technical enablers: Advanced manufacturing support from KACST on technical guidance and infrastructure setup

Where is the opportunity



Raw materials

Source or produce high-grade materials domestically¹

For SMEs - opportunity to provide raw materials



Manufacturing & Assembly

Manufacture & assemble all types of fire stopping barriers

For SMEs - opportunity to provide components and spare parts

Catalyzing Supply Chains

1. E.g., intumescent compounds, coatings, mineral wool, etc.;

Note: SIDF = Saudi Industrial Development Fund; KACST = King Abdulaziz City for Science and Technology

Source: Expert inputs; Team analysis

08

Fire Pump Controllers

Presented by: Mohammed Turkistani

Fire Pump Controllers Opportunity Profile

1

Fire Pump Controllers present an attractive investment opportunity

Types



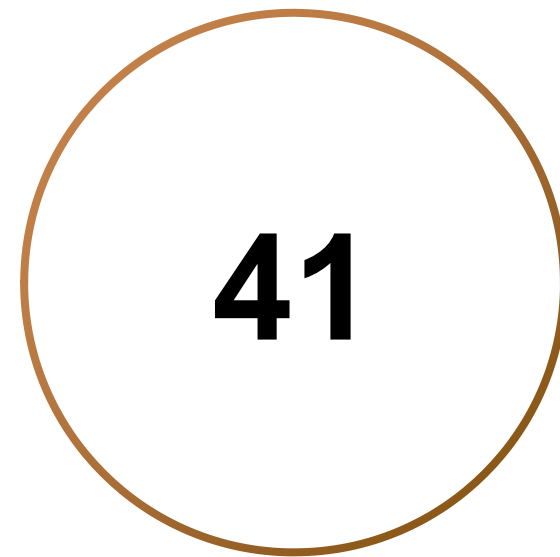
Electric motor



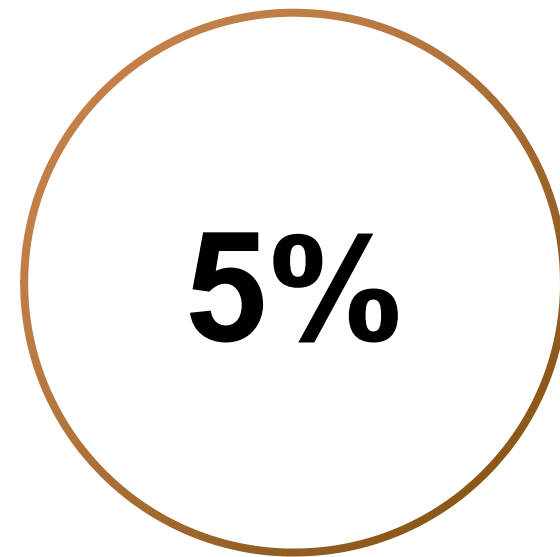
Diesel engine

2

Fire Pump Controllers market is moderately growing; KSA being major market



Estimated 2025 KSA market size. Million USD

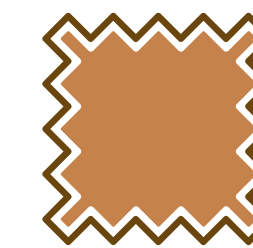


Forecasted 5-year CAGR

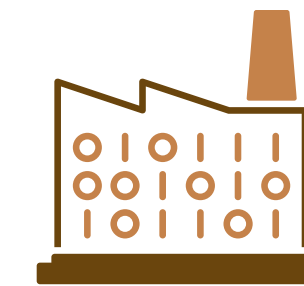
3

Attractive investment opportunities for Fire Pump Controllers value chain

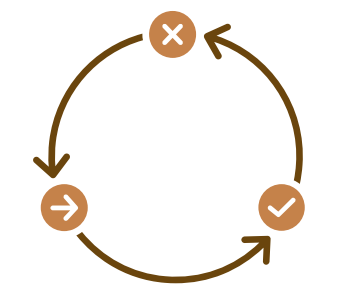
KSA value chain opportunities



Raw materials



Design & Manufacturing



Installation & Maintenance

KSA enablers

- Financial Support
- Land Infrastructure
- Technical Requirements

Catalyzing Supply Chains

1. Essential for explosion-proof and high-pressure fire suppression systems in O&G, and critical for safety in commercial and residential buildings.
 Source: Saudi Aramco, Team analysis

Fire Pump Controllers

Potential Localized Categories

Type(s)

Electric motor

Diesel engine

Key Technical Specifications:



Applications

Commercial, residential, industrial with reliable power

Remote areas, critical infra (e.g., oil & gas)

- To control the sequential operation and activation of fire pumps.
- Outdoor and near shore shall be rated for 50°C ambient temperature and panel enclosure shall be NEMA 250 Type 4 and NEMA type 4X
- **9COM: (Diesel and electric) 6000002696 1001082667 1001082715**
- Fire pump control panel must be UL 218 Listed
- NFPA 20 Standard for the Installation of Stationary Pumps in Fire Protection
- All panels must be capable of providing the pumps sequencing functions as per SAES-B-017 Fire Water System Design.
- Comply with SAES-P-116 for electrical panels.

Fire Pump Controllers SME Opportunities

Components of Fire Pump Controllers



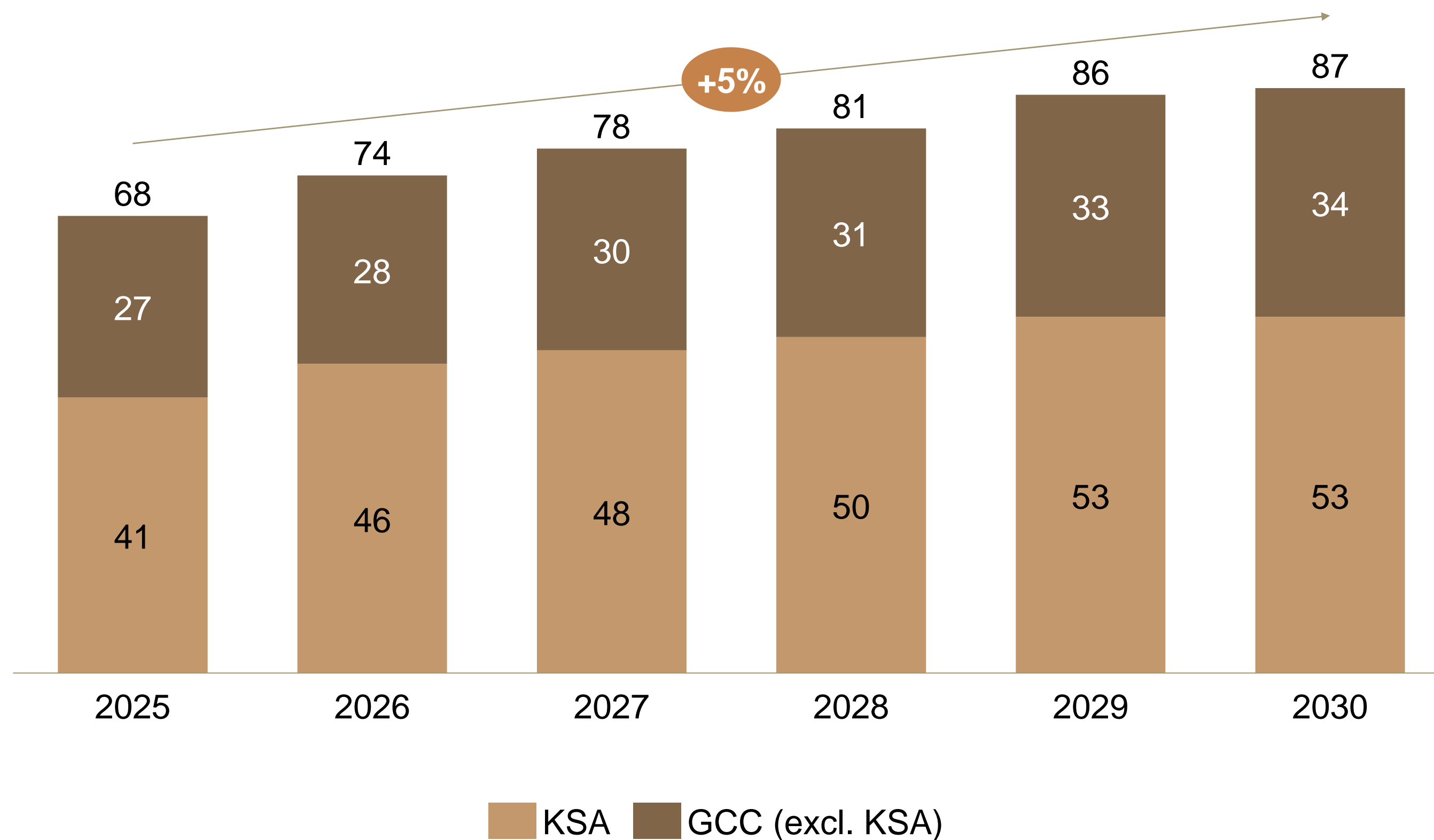
- Transformer
- Processor
- Modules
- Body/Casing



Catalyzing Supply Chains

Fire Pump Controllers Demand, Customers & Drivers

Forecasted KSA and rest of GCC Fire Pump Controllers market 2025-2030 (Million USD)



Pump Controllers customers in KSA

- Commercial & residential real estate
- Industrial & manufacturing facilities
- Critical infrastructure¹
- Government & specialized facilities²

Key KSA demand drivers

- **Industrial expansion:** growth in O&G, petchem., mining, power generation, water desalination
- **New tech:** IoT capabilities, enabling remote monitoring, and energy efficiency

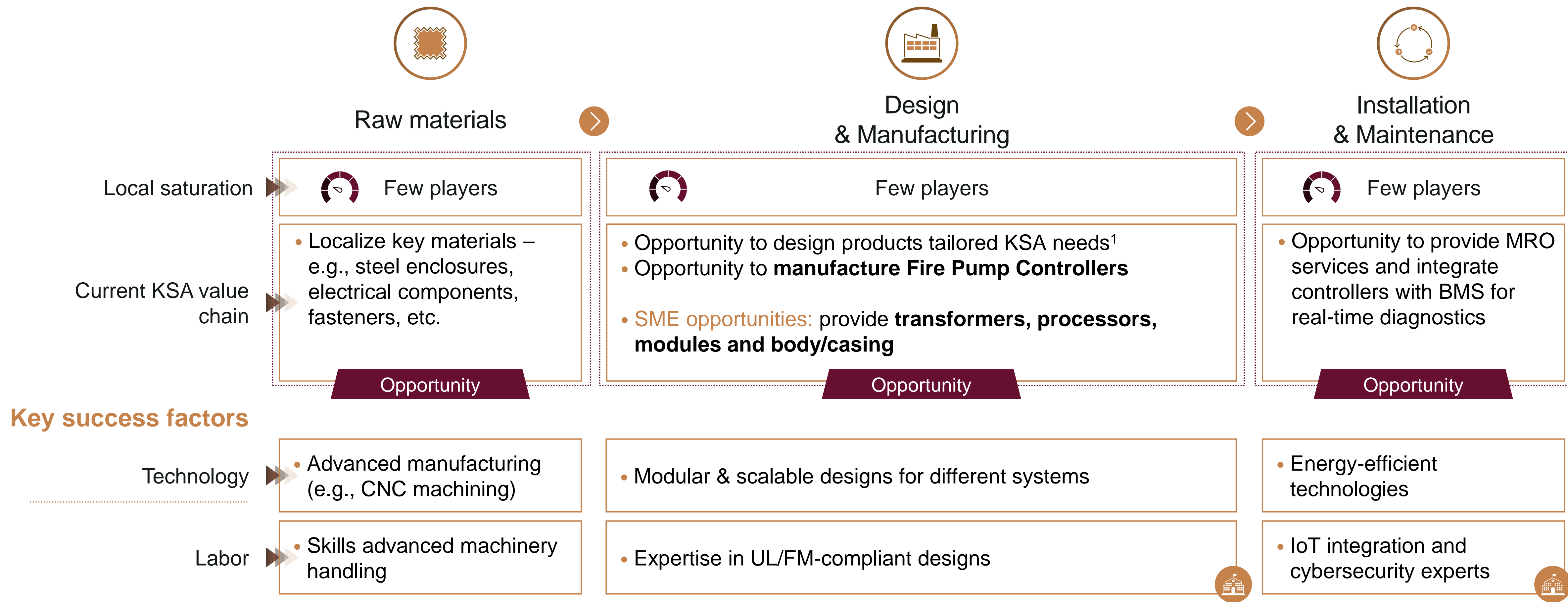
Fire protection workshop

Catalyzing Supply Chains

1. Hospitals, airports, transportation hubs, and megaprojects; 2. Military bases, power plants, and remote industrial sites
Source: Saudi Aramco, Team analysis

Fire Pump Controllers

Value Chain and Key Localization Opportunities



Fire protection workshop

Catalyzing Supply Chains

KSA National training center available

Note: BMS = Building Management Systems; 1. E.g., explosion-proof controllers for oil and gas;
Source: Allied Market research; Expert inputs; Team analysis

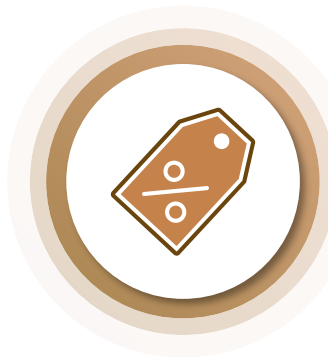
Fire Pump Controllers

Investment Opportunity and Enablers

Key enablers in KSA to drive success



Localization incentives: Government programs – e.g., SIDF multipurpose loans, or export tax exemption

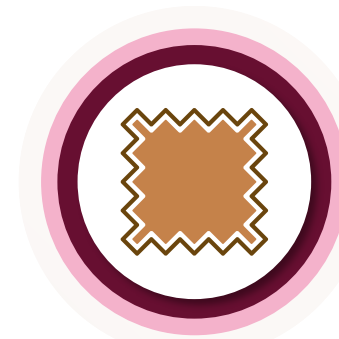


Price preferential: 10% lower price for locally manufactured products by Local Content & Government Procurement Authority



Widely available specialized labor: NITI provides machinists, maintenance technicians, and equipment operators who can support manufacturing

Where is the opportunity



Raw materials

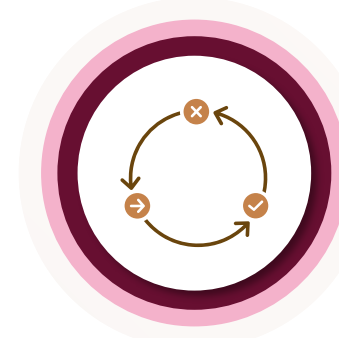
Localize key materials – e.g., steel enclosures, electrical components, fasteners, etc.



Design & Manufacturing

Opportunity to design products tailored KSA needs
 Opportunity to **manufacture Fire Pump Controllers**

For SMEs - opportunity to provide spare parts



Installation & Maintenance

Provide MRO services and integrate controllers with BMS for real-time diagnostics

Catalyzing Supply Chains

Note: SIDF = Saudi Industrial Development Fund; KACST = King Abdulaziz City for Science and Technology;
 Source: Expert inputs; Team analysis

09

Fire Sprinklers Systems

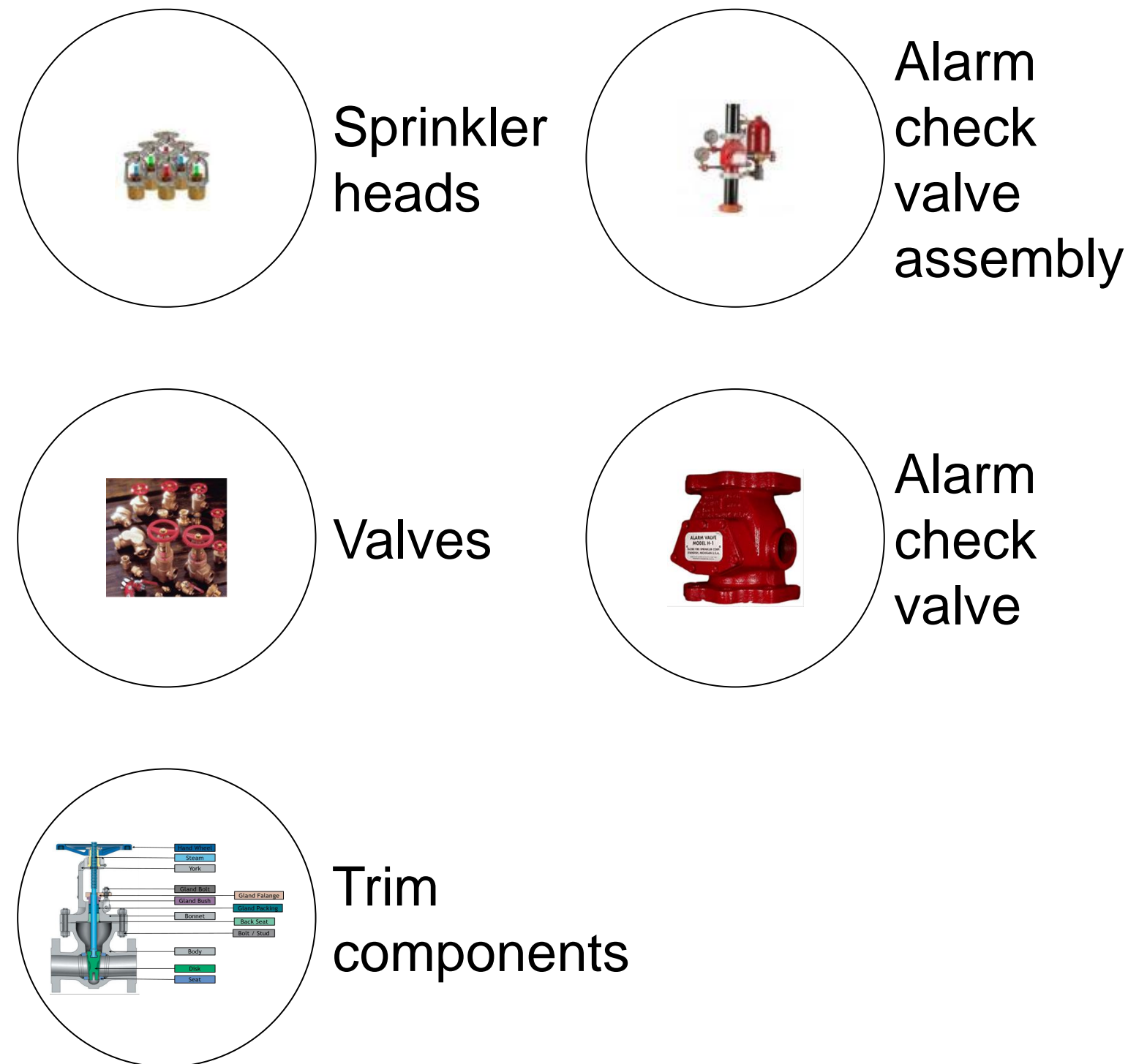
Presented by: Mohammed Turkistani

Fire Sprinkler Systems Opportunity Profile

1

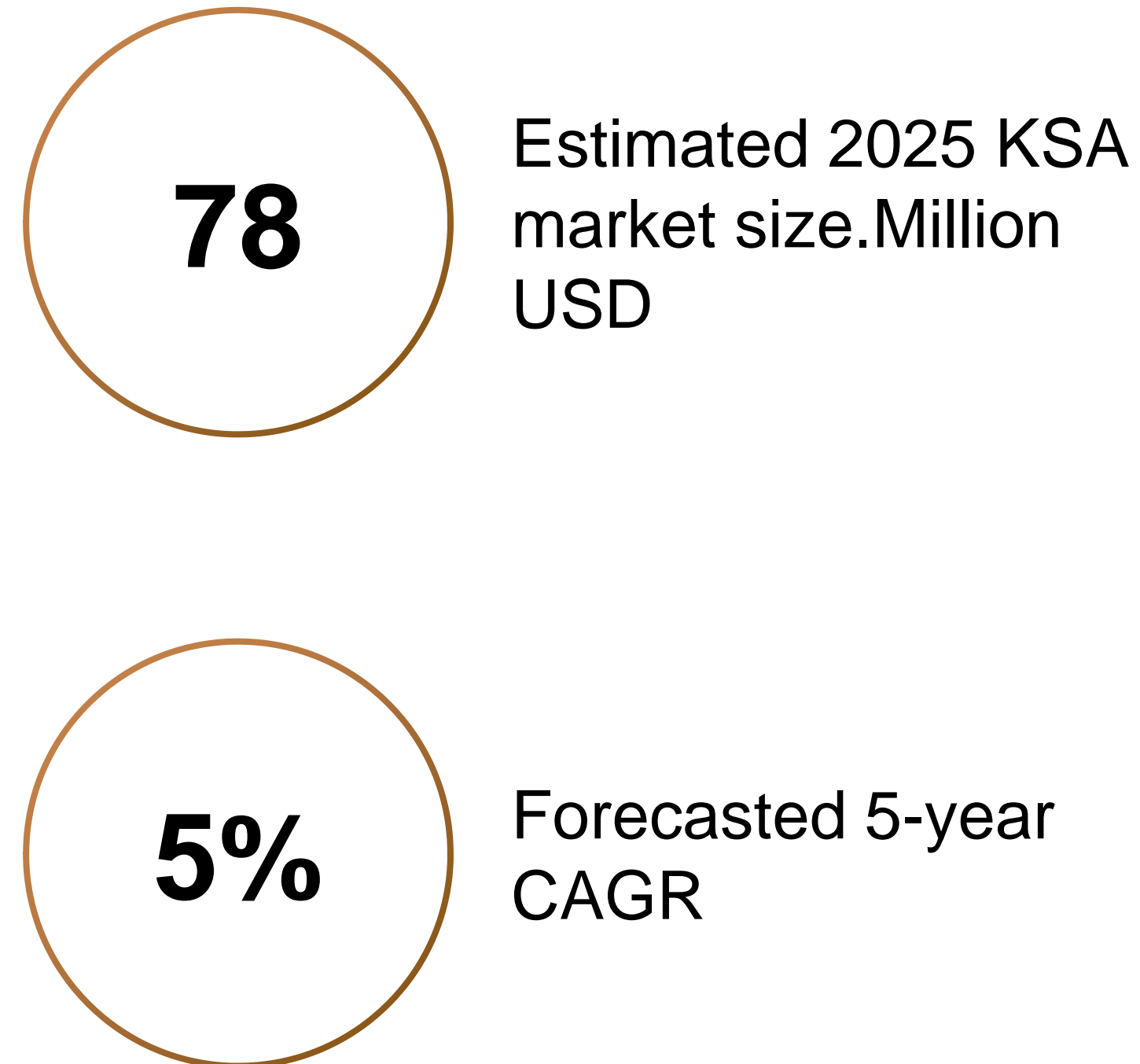
Fire Pump Controllers present an attractive investment opportunity

Fire sprinkler system components



2

Fire Sprinkler Systems market is moderately growing; KSA being major market



3

Attractive investment opportunities for Fire Sprinkler Systems value chain

KSA value chain opportunities



KSA enablers

- Financial Support
- Land Infrastructure
- Technical Requirements

Catalyzing Supply Chains

1. Essential for fire suppression systems in O&G, and critical for safety in commercial and residential buildings
 Source: Saudi Aramco, Team analysis

Fire Sprinkler Systems

Potential Localized Categories

Components

Sprinkler Heads



Alarm Check Valve Assembly



Key Technical Specifications:

- ✓ Sprinkler system components for (**9COM: 6000001325**) and its applications are:
 - Residential.
 - Industrial.
 - Hydrocarbon.

- ✓ System Components include:
 - Alarm check valves
 - Deluge/pre-action valves
 - Dry-pipe valves
 - Flow switches
 - Sprinkler heads/nozzles
 - Foam mixers
 - UL/FM listed/approved and complying with the most recent edition of NFPA 13 standards for the installation of sprinkler systems
 - In compliance with Saudi Aramco engineering requirements for material selection and coating (SAES-L-108, SAES-H-001 and SAES-H-002).

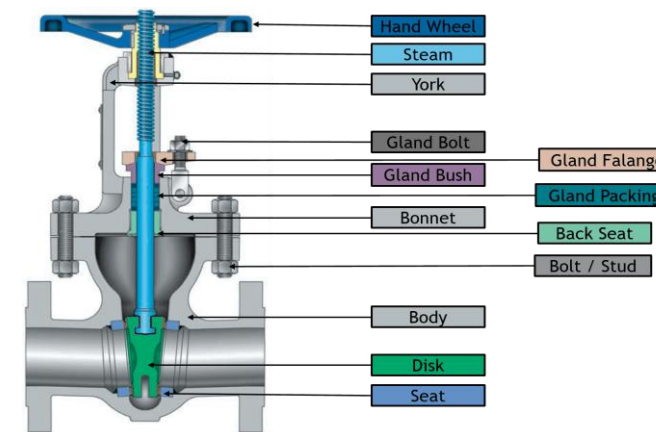
Valves



Alarm check valve

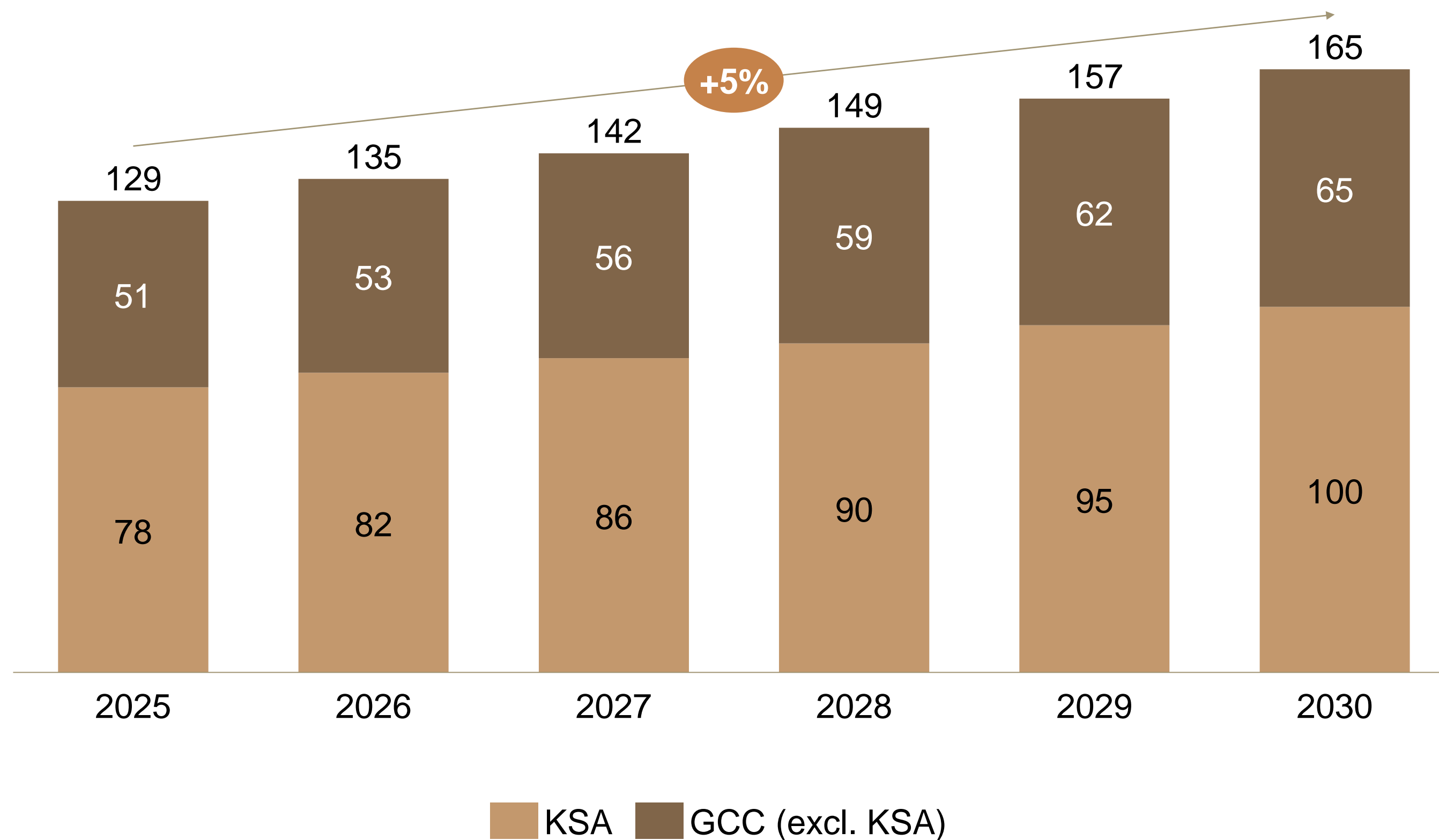


Trim components







Fire Sprinkler Systems Demand, Customers & Drivers

Forecasted KSA and rest of GCC Fire Sprinkler Systems market 2025-2030, (Million USD)



Fire Sprinkler Systems customers in KSA

-  Commercial & residential real estate
-  Industrial & manufacturing facilities
-  Critical infrastructure¹
-  Government & specialized facilities²

Key KSA demand drivers

- **Industrial expansion:** growth in O&G, petchem., mining, power generation, water desalination

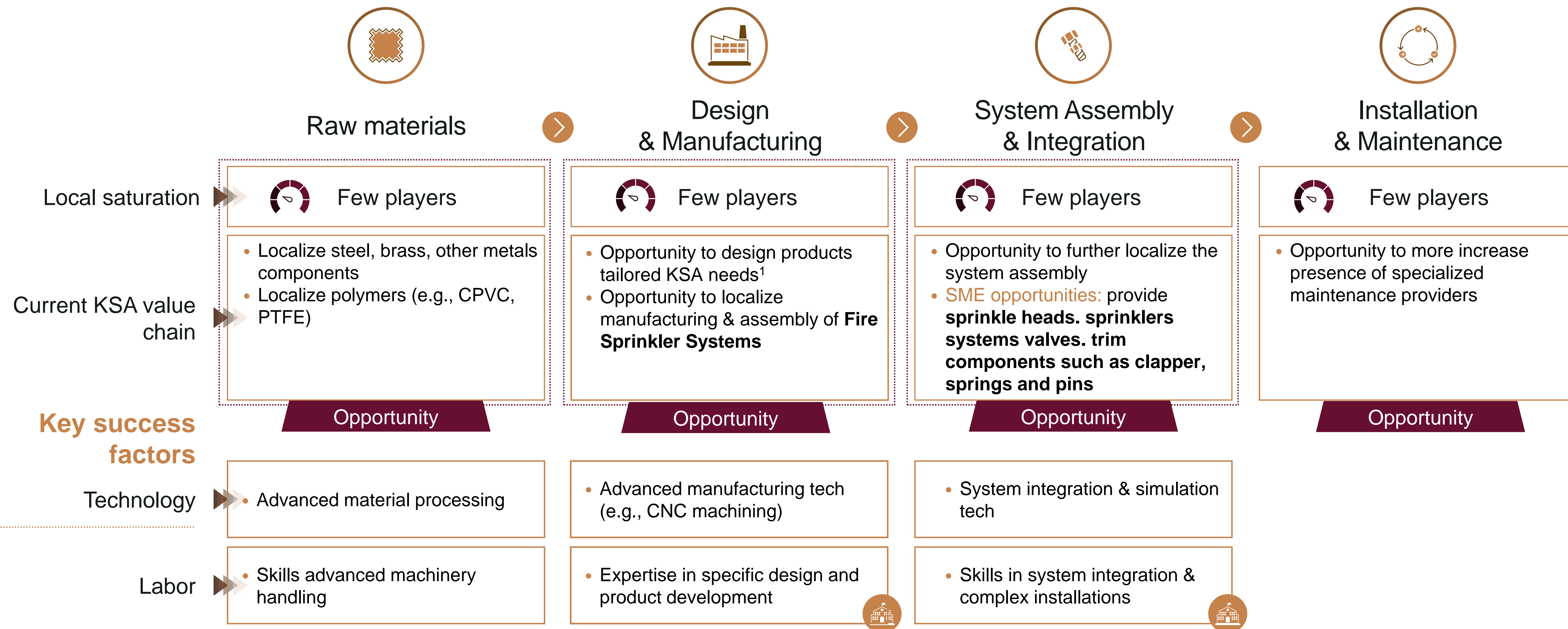
Fire protection workshop

Catalyzing Supply Chains

1. Hospitals, airports, transportation hubs, and megaprojects; 2. Military bases, power plants, and remote industrial sites
Source: Saudi Aramco, Team analysis


Fire Sprinkler Systems

Value chain and Key Localization Opportunities



Fire protection workshop

Catalyzing Supply Chains

 KSA National training center available

Note: CPVC = Chlorinated Polyvinyl Chloride; PTFE = Teflon. 1. E.g., explosion-proof controllers for O&G;
Source: Allied Market research; Expert inputs; Team analysis

Fire Sprinkler Systems

Investment Opportunity and Enablers

Key enablers in KSA to drive success



Localization incentives: Government programs – e.g., e.g., SIDF loan subsidies, Zakat & tax benefits, or export tax exemption

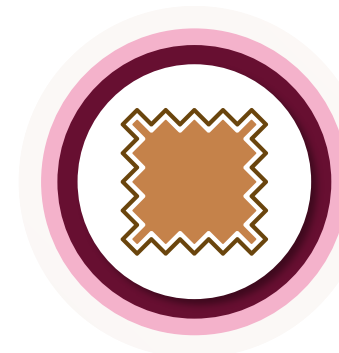


Land and infrastructure: Subsidized land and infrastructure in economic zones (e.g., Modon) reduce setup costs & accelerate



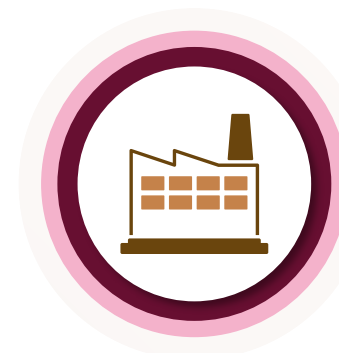
Widely available specialized labor: NITI provides machinists, maintenance technicians, and equipment operators who can support manufacturing

Where is the opportunity



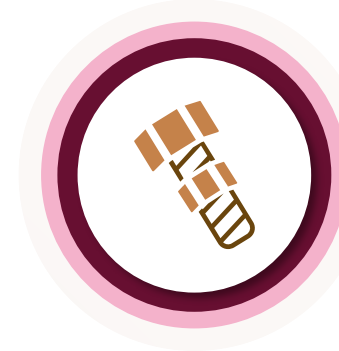
Raw materials

Localize steel, brass, other metals components



Design & Manufacturing

Opportunity to localize manufacturing & assembly of Fire Sprinkler Systems
 For SMEs - opportunity to provide key components



System Assembly & Integration

Further localize assembly and integration of fire sprinkler systems

Catalyzing Supply Chains

Note: NITI = National Industrial Training Institute; BMS = Building Management Systems;
 Source: Expert inputs; Team analysis

10

Valves for Fire Water Systems

Presented by: Mohammed Turkistani

Valves for Fire Water Systems Opportunity Profile

1

Fire Pump Controllers present an attractive investment opportunity

Examples of Types



Gate Valve



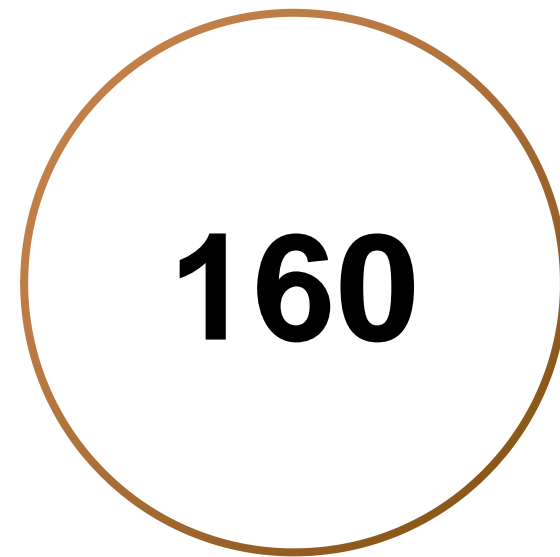
Butterfly Valve



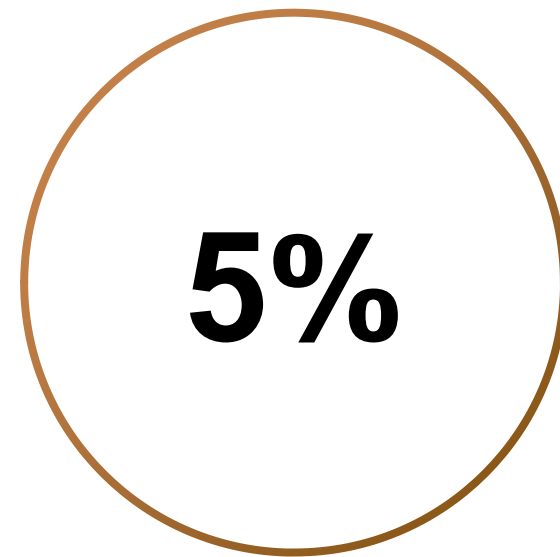
Post Indicator Valve (PIV)

2

Valves market is moderately growing; KSA being major market



Estimated 2025 KSA market size. Million USD

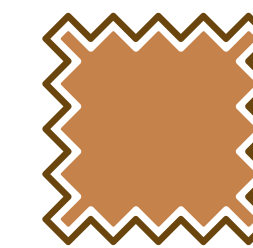


Forecasted 5-year CAGR

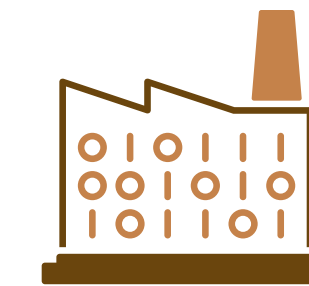
3

Attractive investment opportunities for Valves value chain

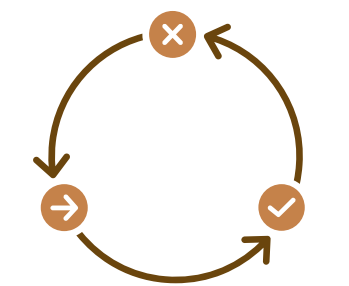
KSA value chain opportunities



Raw materials



Manufacturing & Assembly



Installation & Maintenance

KSA enablers

- Financial Support
- Land Infrastructure
- Technical Requirements

Catalyzing Supply Chains

1. Essential for fire suppression systems in O&G, critical for safety in commercial and residential buildings

Note: MRO = Maintenance, Repair, and Overhaul

Source: Saudi Aramco, Team analysis

Valves for Fire Water Systems

Potential Localized Categories

Most Common Types

Gate Valve



Butterfly Valve



Post Indicator Valve

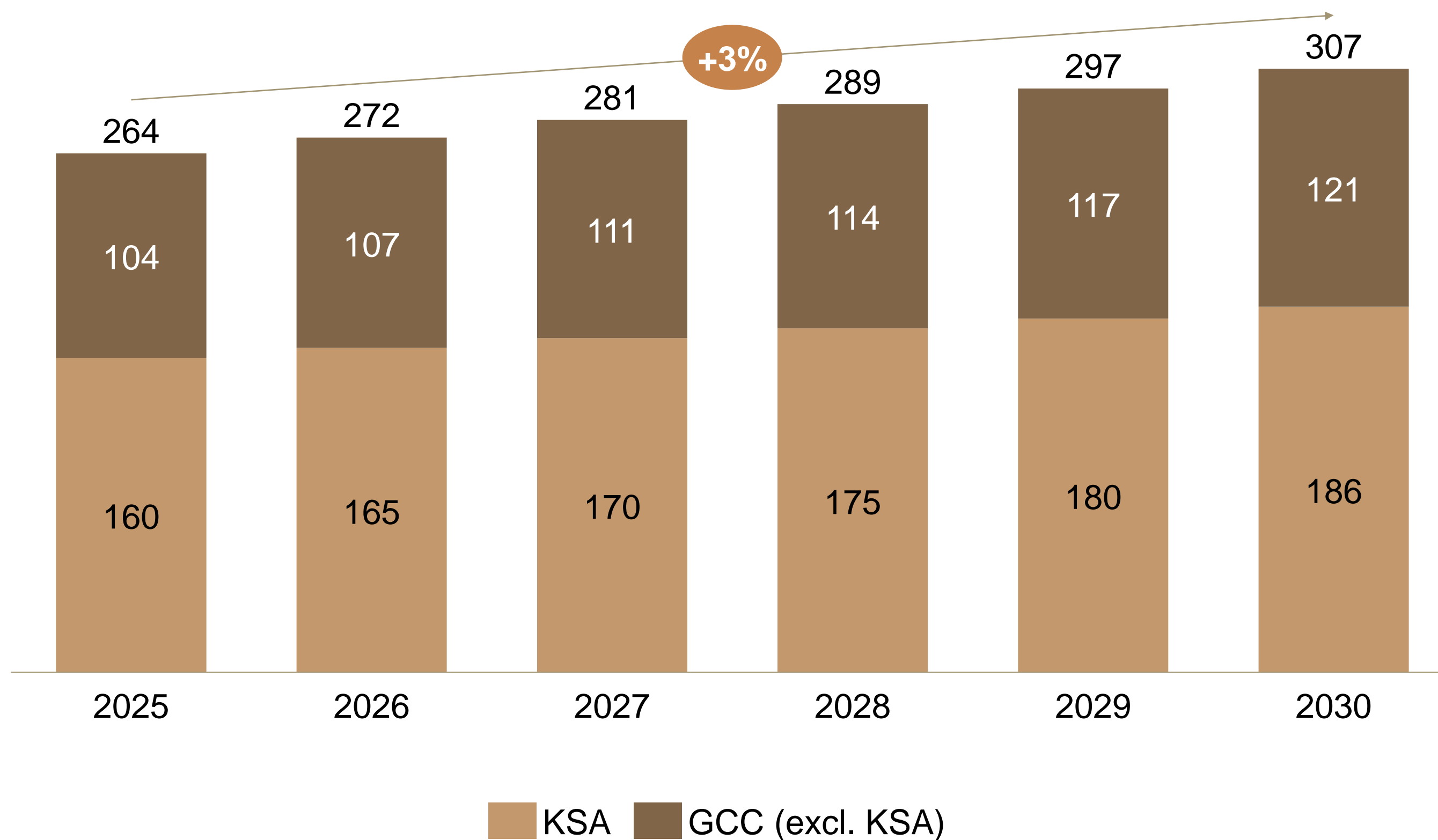


Key Technical Specifications:





- Fire water valves for controlling and sectionalizing the fire water systems.
- Valves used in fire water / protection systems.
- Post Indicator Valves (PIV), check valves, sectional valves, outside stem & yoke (OS&Y), gate valves, wall post indicator valves (WPIV) and control valves.
- 9COM: **6000001380**
- All valves must be UL Listed or/and FM Approved for fire water service.
- In compliance with Saudi Aramco Engineering Requirements for material selection and coating (SAES-L-108, SAES-H-001 and SAES-H-002).

Valves for Fire Water Systems Demand, Customers & Drivers

Forecasted KSA and rest of GCC Valves for Fire Water Systems market 2025-2030 (Million USD)



Valves for Fire Water Systems customers in KSA

-  Commercial & residential real estate
-  Oil & Gas facilities
-  Critical infrastructure¹
-  Government & specialized facilities²

Key KSA demand drivers

- **Industrial expansion:** growth in O&G, petchem., mining, power generation, water desalination

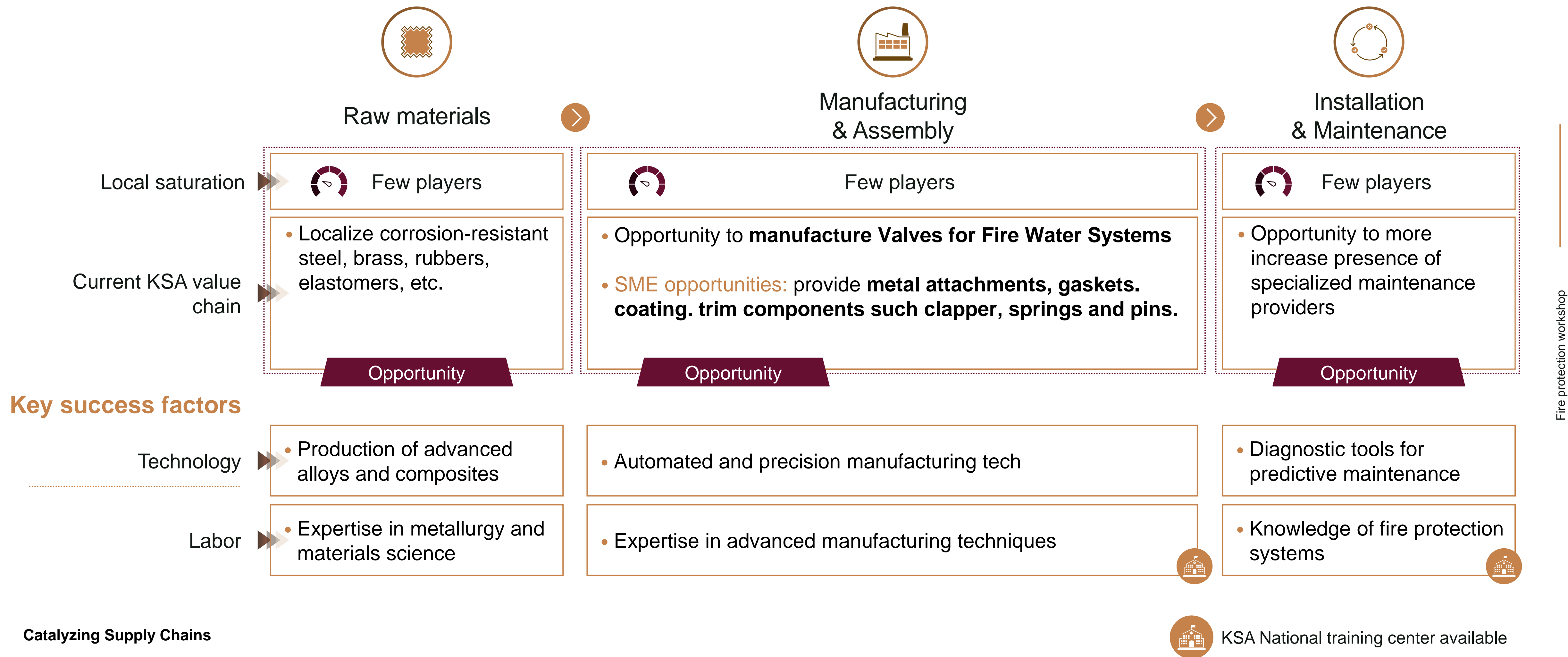
Fire protection workshop

Catalyzing Supply Chains

1. Hospitals, airports, transportation hubs, and megaprojects; 2. Military bases, power plants, and remote industrial sites
Source: Saudi Aramco, Team analysis

Valves for Fire Water Systems

Value Chain and Key Localization Opportunities



Valves for Fire Water Systems

Investment Opportunity and Enablers

Key enablers in KSA to drive success



Localization incentives: Government programs – e.g., SIDF loan subsidies, Zakat & tax benefits, or export tax exemption



Regulatory incentives: Mandatory local procurement quotas for public and private firefighting needs

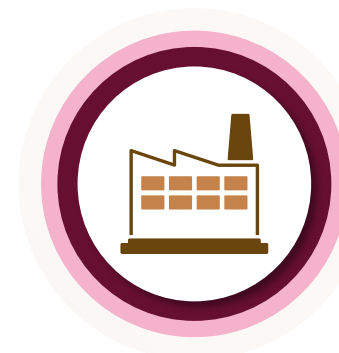


Widely available specialized labor: NCTC provides machinists, maintenance technicians, and equipment operators who can support manufacturing

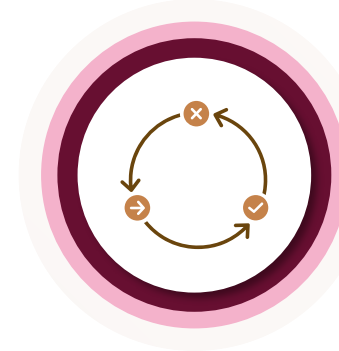
Where is the opportunity



R&D centers
 Set up R&D centers to design KSA-tailored valves with intl. partners



Manufacturing & Assembly
 Manufacture & assemble multiple types of valves for fire water systems
 For SMEs - opportunity to provide key components



Installation & Maintenance
 Offer specialized MRO services for valves and related systems

Catalyzing Supply Chains

Note: NCTC = National Construction Training Center
 Source: Expert inputs; Team analysis

**Thank
You**