

# Static & Rotating Equipment

*Workshop*

**Business Opportunities**

XXth January 2025

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# 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**

<b>2000+</b> Service contracts	<b>290+</b> Corporate purchase agreements
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**Business Opportunities**

<b>12</b> Sectors	<b>200</b> Business Opportunities	<b>\$28 bn</b> Annual Market Size
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**Anchor Projects**

**6** Anchor projects

 IMI	 SPARK	 Tuwaiq
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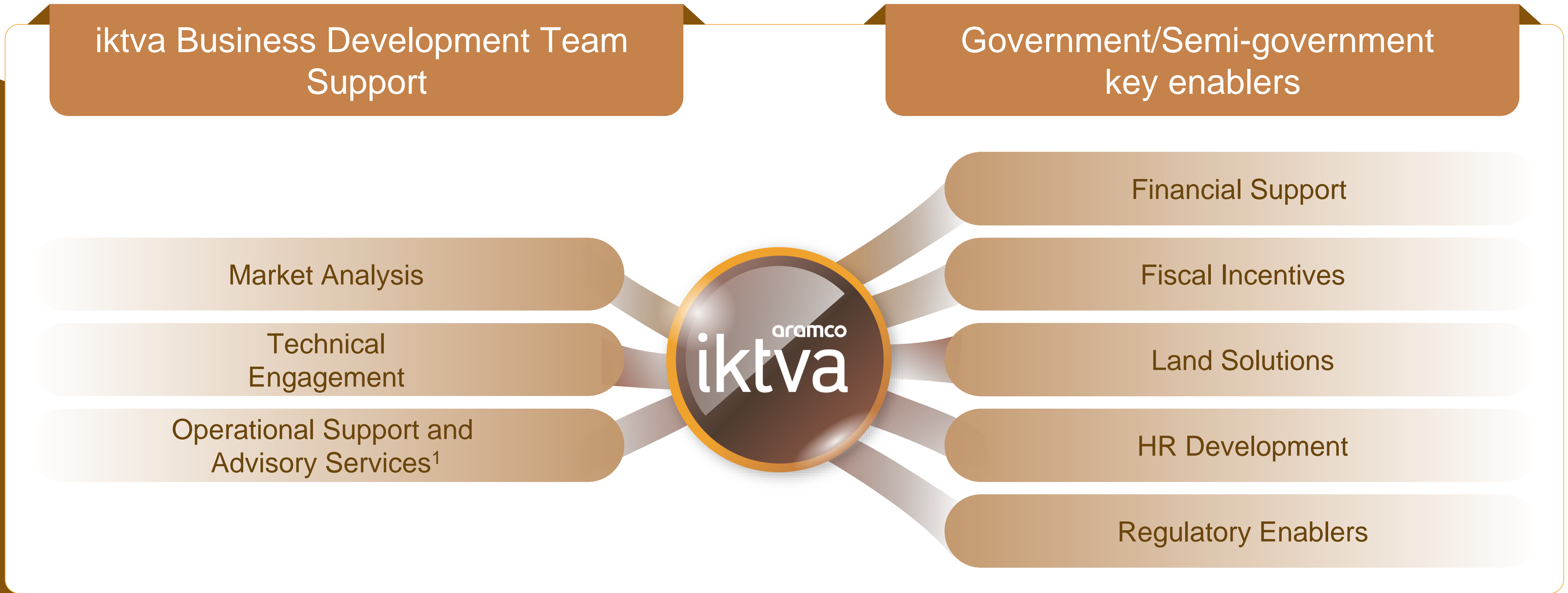
**Local Workforce Development**

<b>16</b> National training centers	<b>90+</b> Programs
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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
<b>Top 20</b> economies globally	<b>5</b> Special Economic Zones drive innovation	<b>\$1.3T+</b> invested in private sector by 2030	 one of world's most rewarding tax systems	<b>12-15%</b> of global trade passes via Red Sea	<b>17%</b> population growth from 2013-2023
<b>GDP growth</b> among highest projected in 2025 in top economies	<b>6</b> giga projects driving urbanization and industry	<b>5.7%</b> contribution of FDI to GDP by 2030	<b>Top 5</b> in the MENA region for ease of doing business	 KSA container ports are among the most efficient globally	<b>67%</b> 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*



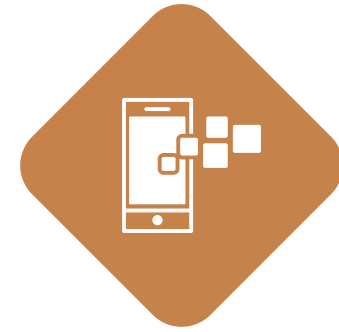
**Technological  
& labor feasibility**

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

# Four key drivers for the KSA static & rotating equipment market



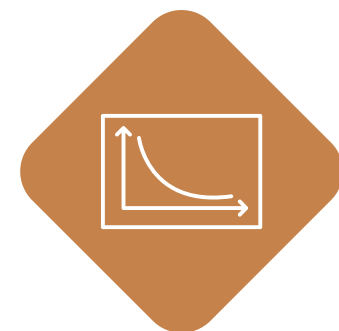
- **Energy sector drives demand** for static and rotating equipment
- **Construction sector relies on static and rotating equipment** and is set to hit USD 126.8 Bn by 2032, growing at 7.3% CAGR



**Technologies like digital twins<sup>1</sup> and automation** enhance productivity and precision, driving need for equipment like cranes



**Stringent environmental regulations** such as SASO energy efficiency standards promote sustainability in industrial equipment



- **Vision 2030's focus on economic diversification** drives demand for advanced manufacturing and construction machinery
- **Government emphasis on digitalization and energy efficiency** drive demand for energy-efficient, digitally integrated equipment

## Catalyzing Supply Chains


1. Digital twins are virtual replicas of physical assets, processes, or systems, created using real-time data and simulations

Note: SASO = The Saudi Standards, Metrology, and Quality Organization

Source: Market Research Reports; Imarc Group Reports; IWF; PWC

# Static & Rotating Equipment Megaprojects


Non-exhaustive



## NEOM

Digital twin technology at NEOM port to automate

- 10 ship-to-shore cranes
- 30 electric cranes



## Aramco Master Gas Program (MGS)

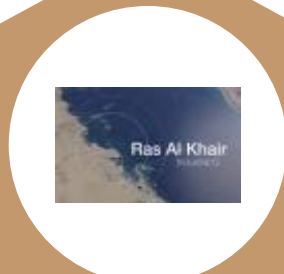
Extensive network of pipes connecting gas production and processing facilities

- \$25B contracts awarded for MGS III expansion
- Expansion of Fadhili gas plant awarded with \$7.7B in contracts, including air compressors



## The Red Sea Project

- Uses crane on a 210-class barge<sup>1</sup> to install bridge segments for Red Sea Project
- Uses floating crane system with 500-ton capacity to position beams onto piers<sup>2</sup>



## National Desalination Program

Sustainable water resource management as a key objective of Vision 2030

- Ras Al-Khair desalination plant features 2,650 MW power facility using 5x600 MW and 2x220 MW gas turbines

### Catalyzing Supply Chains

1. Barge is a flat-bottomed vessel used to transport heavy materials and equipment over water  
 2. Piers are vertical supports that hold up bridges or docks, anchoring structural segments securely  
 Source: Mevea; Bloomberg; Saudi Aramco; Spark Saudi Arabia; Market Research Reports

# Static & Rotating Equipment Market Overview (1/2)

KSA static & rotating equipment

21 opportunities to be discussed today

**\$5.37B**  
5.4% CAGR<sup>1</sup>

2024 KSA market size for opportunities  
in today's workshop

- 1 Centrifugal Blower
- 2 Air Compressor
- 3 Flanges
- 4 Fittings
- 5 Cranes
- 6 Heat Exchanger
- 7 Boiler
- 8 Bolts, Nuts, and Rivets
- 9 Clamps
- 10 Pipe Coatings
- 11 Diesel Engine

Catalyzing Supply Chains

1. 5-year forecasted KSA CAGR (2024-2029)

# Static & Rotating Equipment Market Overview (2/2)

KSA static & rotating equipment

21 opportunities to be discussed today

**\$5.37B**  
5.4% CAGR<sup>1</sup>

2024 KSA market size for opportunities  
in today's workshop

- 12 Vessel Internals
- 13 Flare
- 14 Pipe Cladding
- 15 Rotary Pumps
- 16 Gas Turbines
- 17 Spectacle Plates
- 18 Plug Valves
- 19 Steel Pipe Bending
- 20 AGT Servicing & Overhaul
- 21 Gas Turbine Spare Parts

Catalyzing Supply Chains

1. 5-year forecasted KSA CAGR (2024-2029)

# Workshop Agenda

No.	Title of the Investment Opportunity	Presenters
	Introduction	Nasser Alrushoud
1	Centrifugal Blower	Abdulrahman Alotaibi
2	Air Compressor	
3	Flanges	
4	Fittings	
5	Cranes	
6	Heat Exchanger	
7	Boilers	
8	Bolts, Nuts, and Rivets	Mohammed Alotaibi
9	Clamps	
10	Pipe Coatings	
11	Diesel Engine	
12	Vessel Internals	
13	Flare	
14	Pipe Cladding	Khalid Alotaibi
15	Rotary Pumps	
16	Gas Turbines	
17	Spectacle Plates	
18	Valve Plug	
19	AGT Servicing & Overhaul	Laila Alramadan
20	Steel Pipe Bending	
21	Gas Turbine Spare Parts	
	Closing Remarks	
	Catalyzing Supply Chains	

## Centrifugal Blower

*Abdulrahman Alotaibi*

# Opportunity profile—centrifugal blower

1

KSA has a strong demand for CBs to support its oil and gas expansion

### Types



Radial

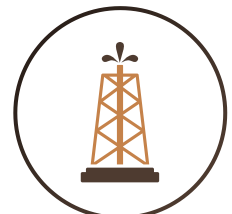


Backward-curved



Multistage

### Applications



Oil and gas



Infrastructure



Petrochemical

### Example

Gas flaring systems

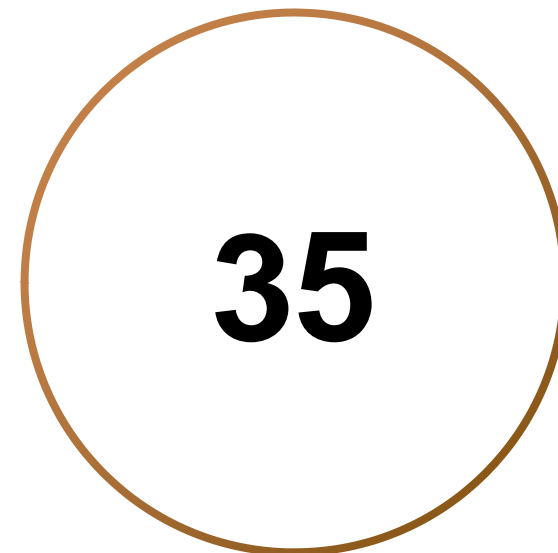
Residential HVAC

Vapor recovery

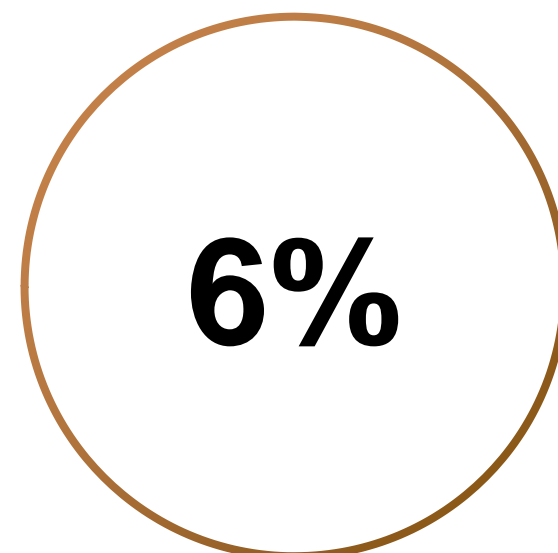
Catalyzing Supply Chains

2

The centrifugal blower market experiences a steady increase



Estimated 2024 KSA market size. \$MM

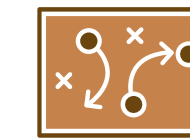


Forecasted 5-year CAGR

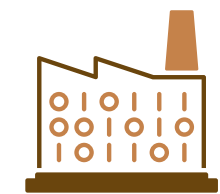
3

Attractive investment opportunities for centrifugal blower value chain

### KSA value chain opportunities



Intermediate processes



Manufacturing

### KSA enablers

- Raw material supply programs
- Machinery customs duty exemptions
- Employee upskilling initiatives

Note: HVAC = Heating, Ventilation and Air Conditioning  
 Source: Global Market Insights; Team analysis

# Potential centrifugal blower localized categories

Non-exhaustive

## Radial blowers



### Applications

- Fume extraction
- Dust collection systems during refining
- Gas flaring systems

## Backward-curved blowers



- Ventilation in hazardous environments
- Flue gas treatment systems to control emissions

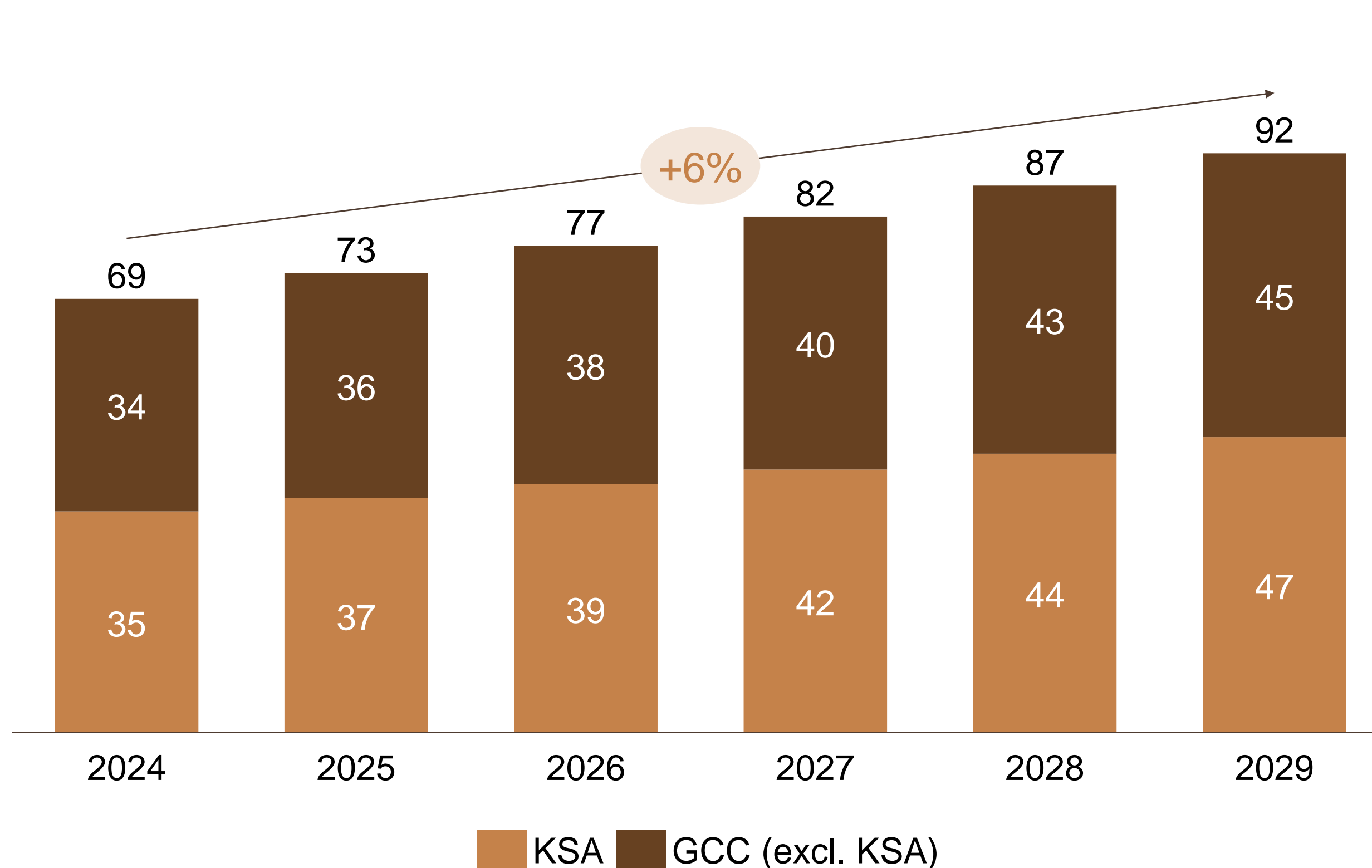
## Multistage blowers



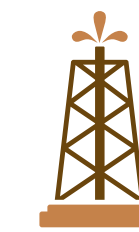
- VRUs to capture and reuse hydrocarbon vapors
- Compression of gases for transport or reinjection

# Centrifugal blower demand, customers, and drivers

Forecasted KSA and rest of GCC CB market 2024-2029 (\$MM)



## Typical CB customers in KSA



Oil & gas sector



Refineries & chemical plants



Commercial building operators

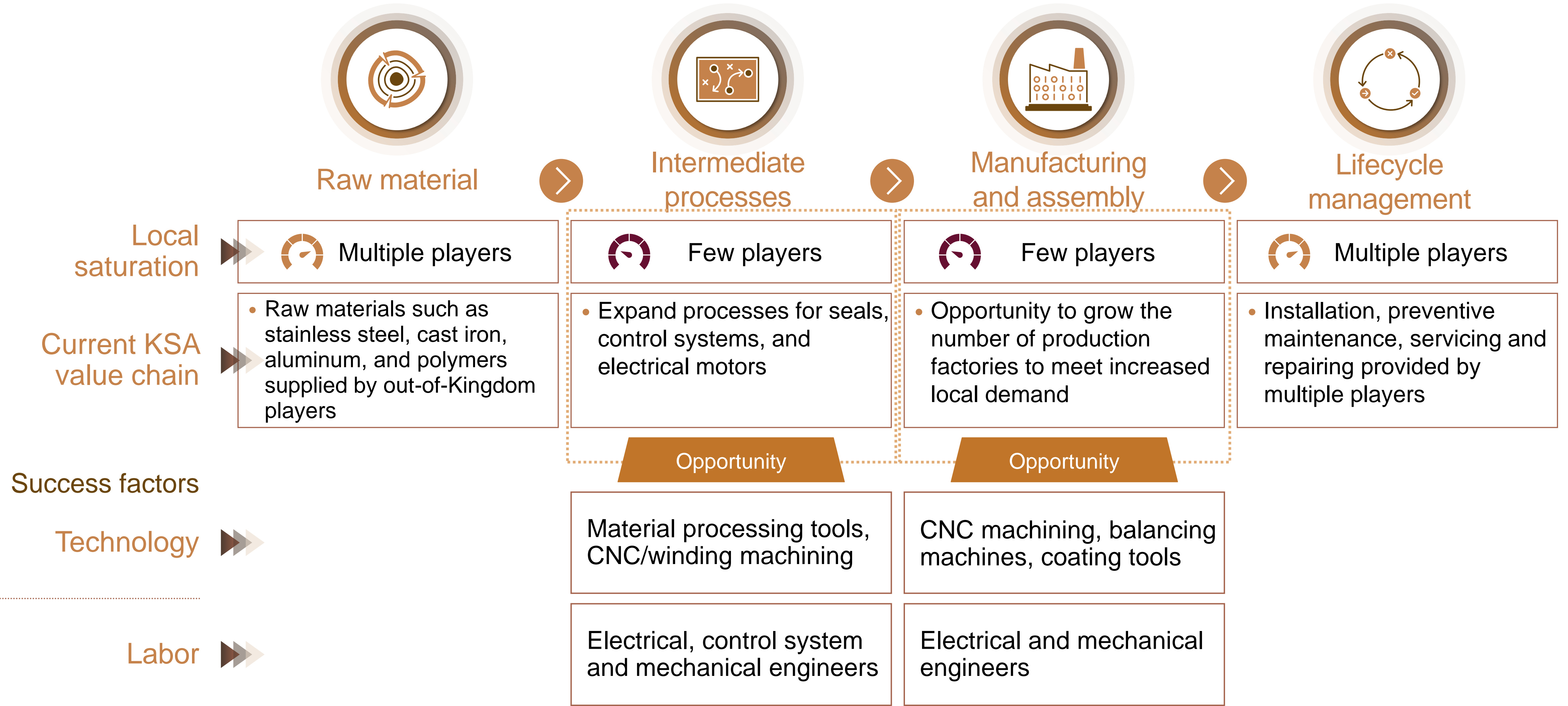
## Key KSA demand drivers

- **Industry trends:** KSA construction sector is expected to grow at a CAGR of 7.30% until 2030, driving the demand for centrifugal blowers
- **Sector expansion:** Increased capital expenditure in energy projects to maintain 12 million bpd of production capacity

### Catalyzing Supply Chains

Note: CB = Centrifugal blower  
Source: Global Market Insights; Team analysis

# Value chain and key localization opportunities



**Catalyzing Supply Chains**

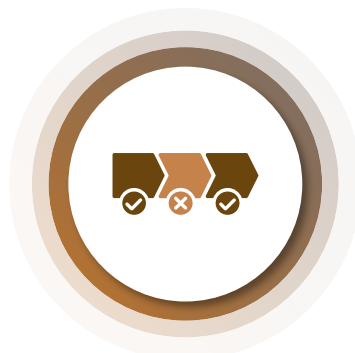
Note: Lifecycle management including all post-production services, including installation; CNC = Computer Numerical Control  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Financial incentives:** Access to financial loans such as Kafalah by SIDF for localizing processes and manufacturing



**Raw material supply:** Nusaned program by SABIC gives access to raw materials to incentivize local factories and supply chain



**Customs enablers:** Custom duty exemptions from MoCI on machinery and equipment for establishment of pipeline installation players



**Employee upskilling:** Training subsidies for centrifugal blower production capabilities upskilling for Saudi nationals by HRDF

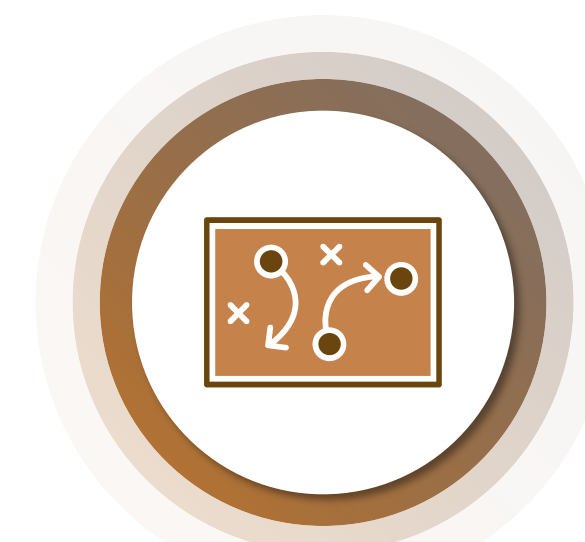
### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup

Note: SIDF = Saudi Industrial Development Fund; MoCI = Ministry of Commerce and Industry; HRDF = Human Resources Development Fund

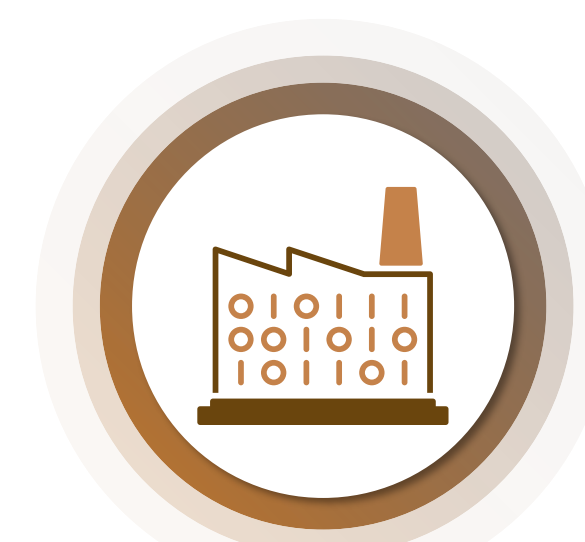
Source: Team analysis

## Where is the opportunity



Intermediate processes

Expand intermediate processes for seals, control systems, and high-performance electrical motors



Manufacturing

Opportunity to grow the number of centrifugal blower production factories to meet the increased local demand

## **Air Compressor**

*Abdulrahman Alotaibi*

# Opportunity profile—air compressor

1

Air compressors needed for growing energy and construction demand

### Types



Rotary screw

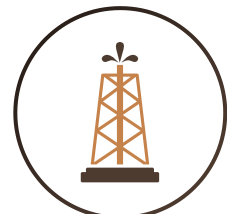


Centrifugal

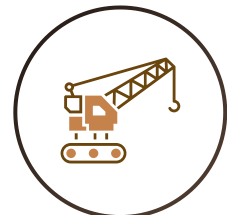


Reciprocating

### Applications



Oil and gas



Construction



Mining

### Example

Gas compression

Jackhammer & rivet tools

Excavation equipment

Catalyzing Supply Chains

2

The air compressor market increases at a steady rate in GCC and KSA

523

Estimated 2024 KSA market size. \$MM

5%

Forecasted 5-year CAGR

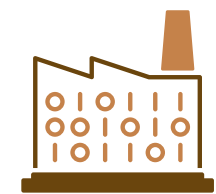
3

Attractive investment opportunities for the air compressor value chain

### KSA value chain opportunities



Intermediate processes



Manufacturing

### KSA enablers

- Regional land and loan programs
- Market analysis and consulting service
- Customs duty exemptions for exports

# Potential air compressor localized categories

Non-exhaustive

## Rotary screw compressors



- Powering drills and excavation equipment
- Operating jackhammer and sandblasting equipment

## Centrifugal compressors



- Feeding compressed air into turbines
- Compressing gases for chemical reactions

## Reciprocating compressors

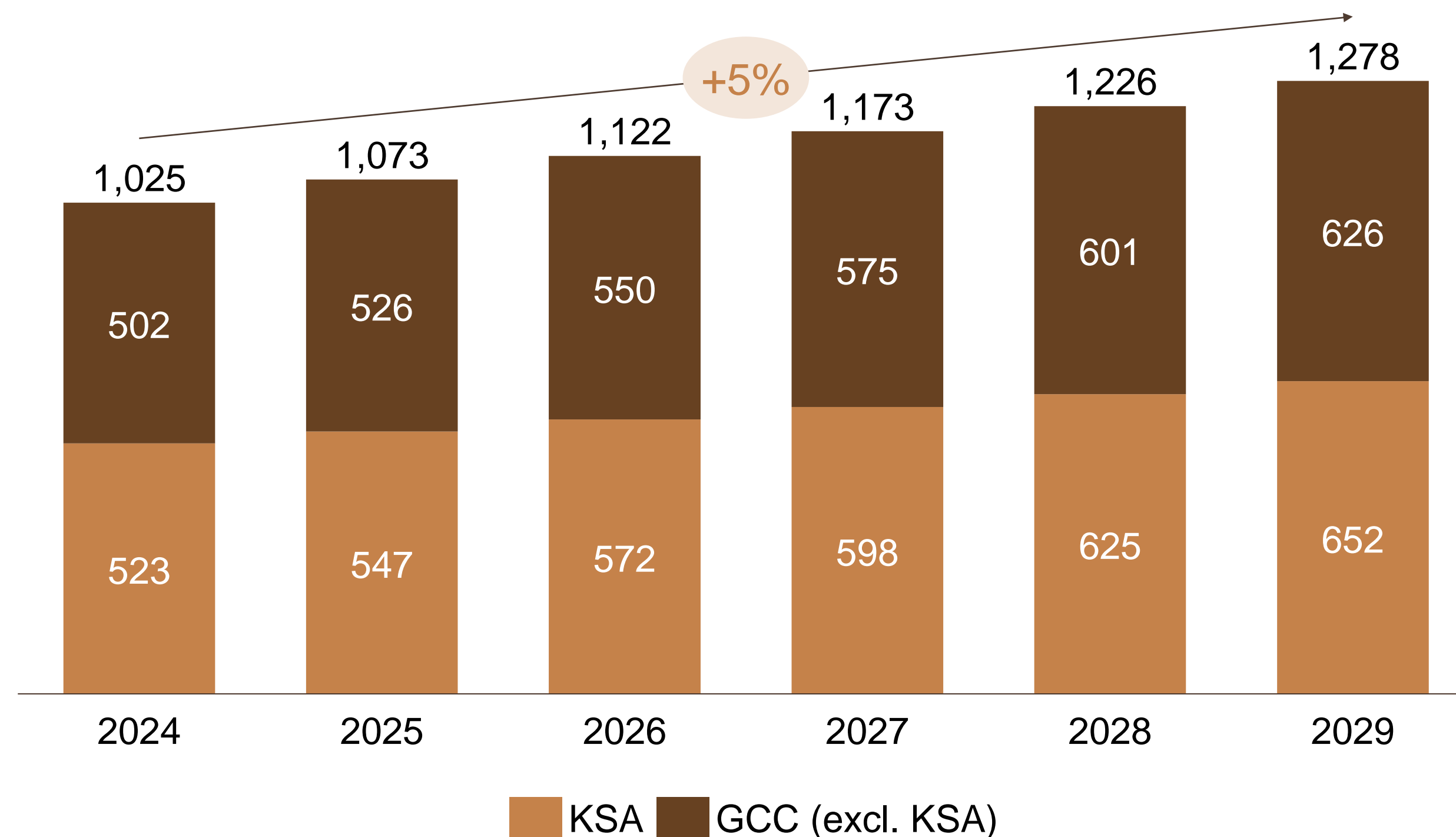


- Powering pneumatic tools and inflating tires
- Operating machinery with intermittent air supply

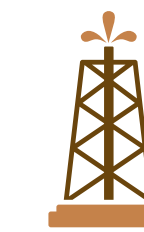
### Applications

# Air compressor demand, customers, and drivers

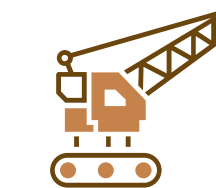
Forecasted KSA and rest of GCC air compressor market 2024-2029 (\$MM)



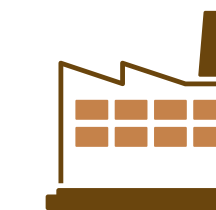
## Typical compressor customers in KSA



Oil & gas sector



Construction companies



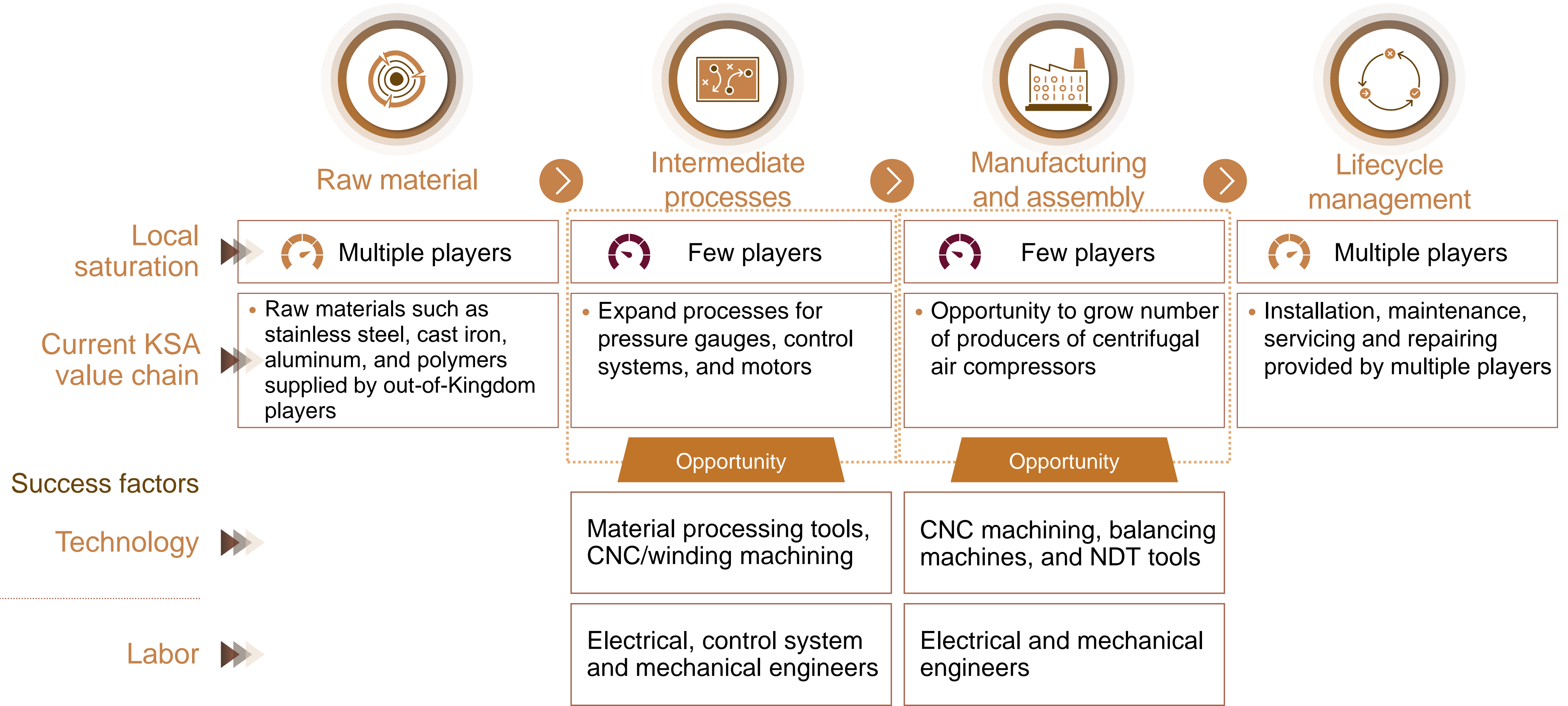
Industrial sector

## Key KSA demand drivers

- **Sector growth:** KSA energy sector boosts demand for static and rotating as it remains core driver for economic growth
- **Industrial growth:** KSA efforts to diversify its economy under Vision 2030 have led to significant investments in manufacturing, construction, and other industrial sectors that rely on air compressors

Catalyzing Supply Chains

# Value chain and key localization opportunities



Catalyzing Supply Chains

Note: Lifecycle management including all post-production services, including installation; CNC = Computer Numerical Control; NDT = Non-destructive testing  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Financial enabler:** Regional land and loan programs from SIDF and industrial land authorities such as KAEC for plant setup



**Market analysis:** Consulting services provided by SABIC to navigate market trends and optimize manufacturing



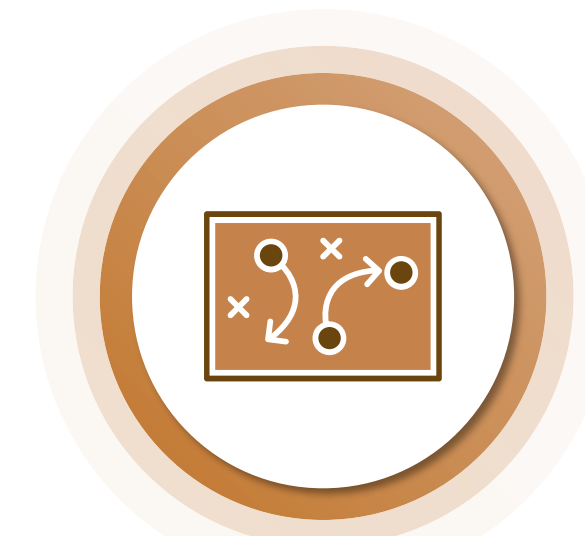
**Fiscal incentives:** Customs duty exemptions provided by SEDA and ZATCA on exports to wider GCC markets



**Human capital enablers:** NITI offers specialized courses covering intermediate processes and machinery manufacturing

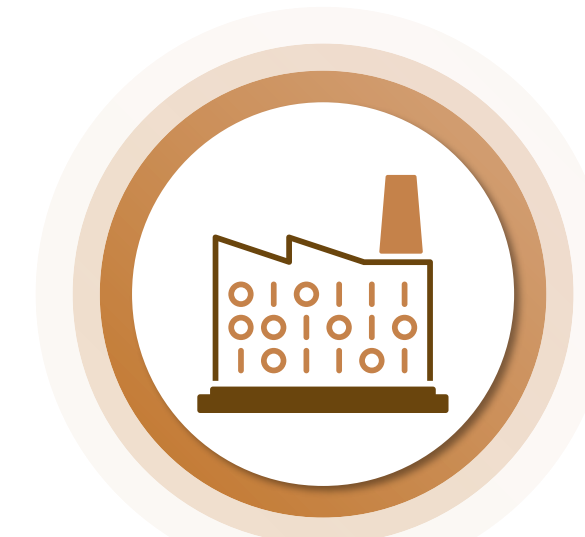


## Where is the opportunity



Intermediate processes

Expand processes for pressure gauges, control systems, and motors



Manufacturing

Opportunity to grow number of producers of centrifugal air compressors

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup; Note: SIDF = Saudi Industrial Development Fund; KAEC = King Abdullah Economic City; SEDA = Saudi Export Development Authority; ZATCA = Zakat, Tax, and Customs Authority; NITI = National Industrial Training Institute  
 Source: Team analysis

## Flanges

*Abdulrahman Alotaibi*

# Opportunity profile—flanges

1

KSA has a strong demand for flanges to support its oil and gas expansion

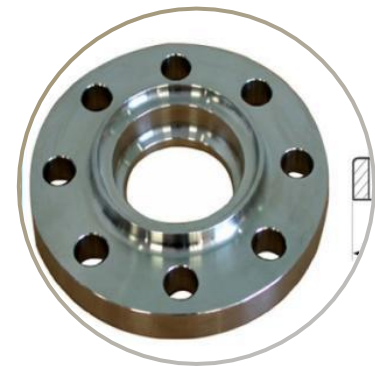
### Types



Weld neck flanges



Blind flanges



Socket weld flanges

### Applications



Oil and gas infrastructure



Power generation



Water treatment

### Example

Berri Field pipelines

Turbine connection

ISTP pumps

Catalyzing Supply Chains

2

The flanges market experiences a gradual increase in KSA and GCC

128

Estimated 2024 KSA market size. \$MM

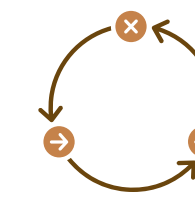
2%

Forecasted 5-year CAGR

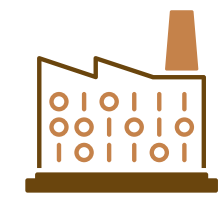
3

Attractive investment opportunities for the flanges value chain

### KSA value chain opportunities



Lifecycle management



Manufacturing

### KSA enablers

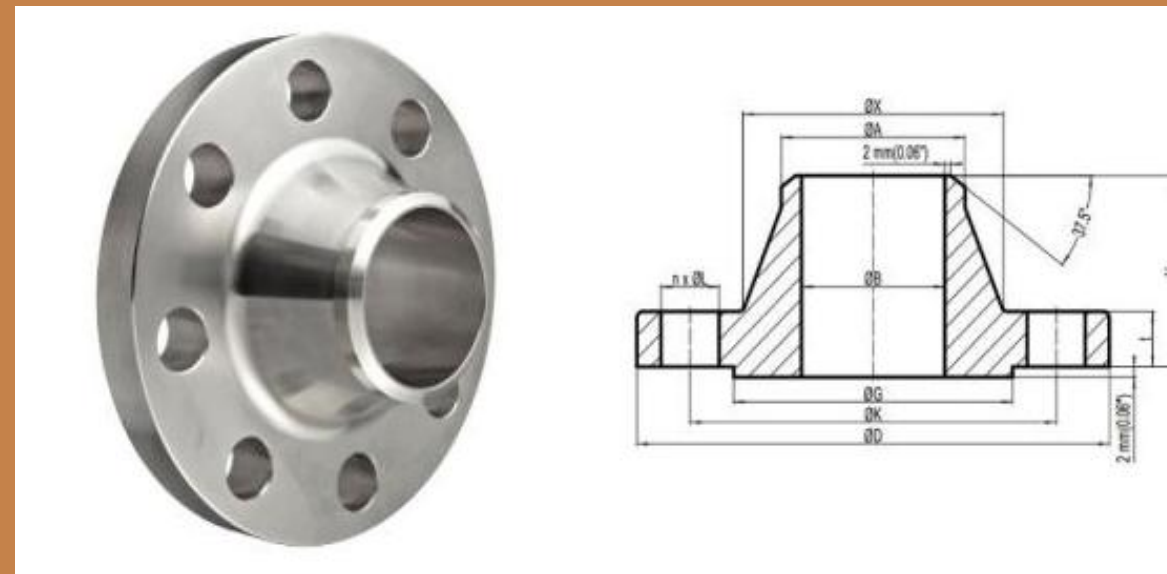
- CAPEX financing programs
- Tax credits on R&D investments
- Inspection training by ITQAN Institute

Note: ISTP = Independent Sewage Treatment Plant  
 Source: EMIS; The Insight Partners; Team analysis

# Potential flanges localized categories

Non-exhaustive

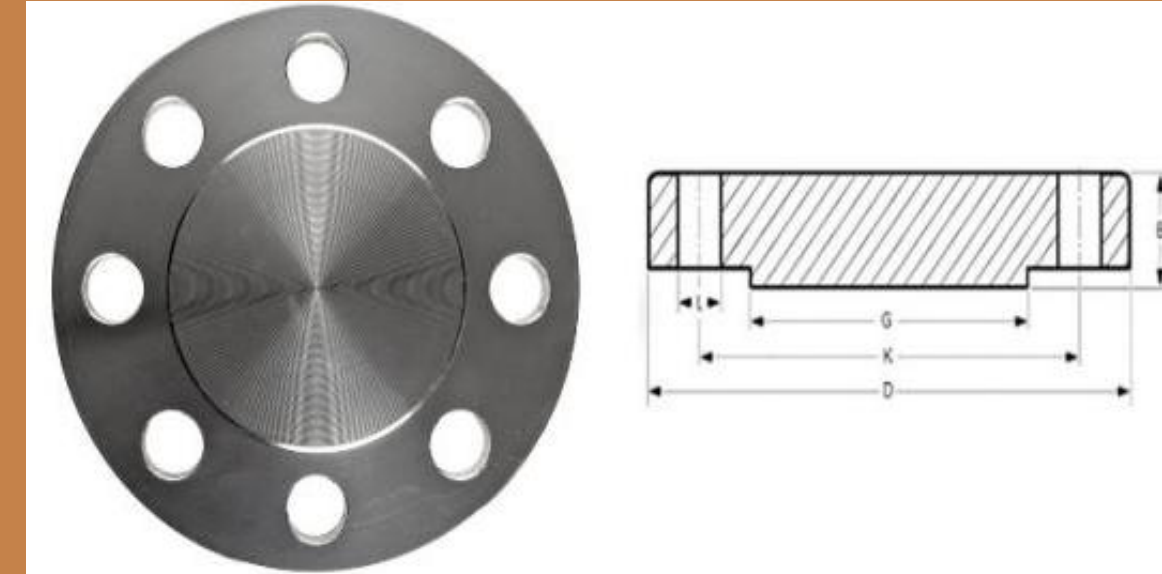
## Weld neck flanges



### Applications

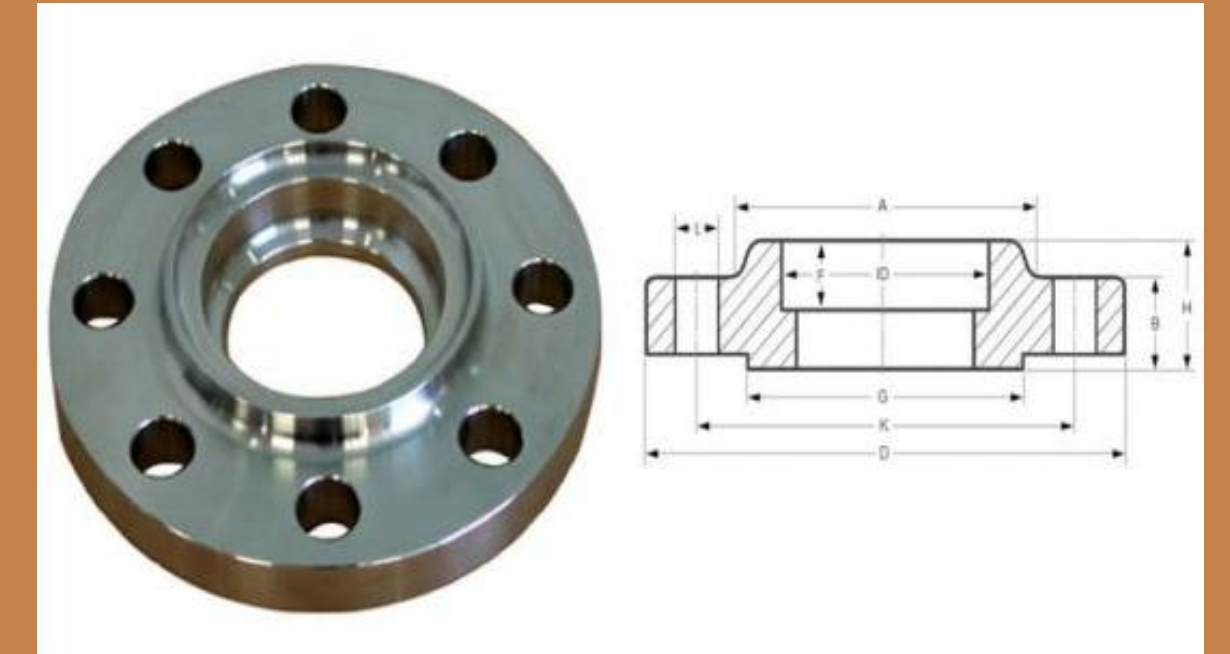
- High-pressure applications
- Welded to pipe to provide strength and reduce stress

## Blind flanges



- Closes the end of a pipe
- Useful for maintenance and testing

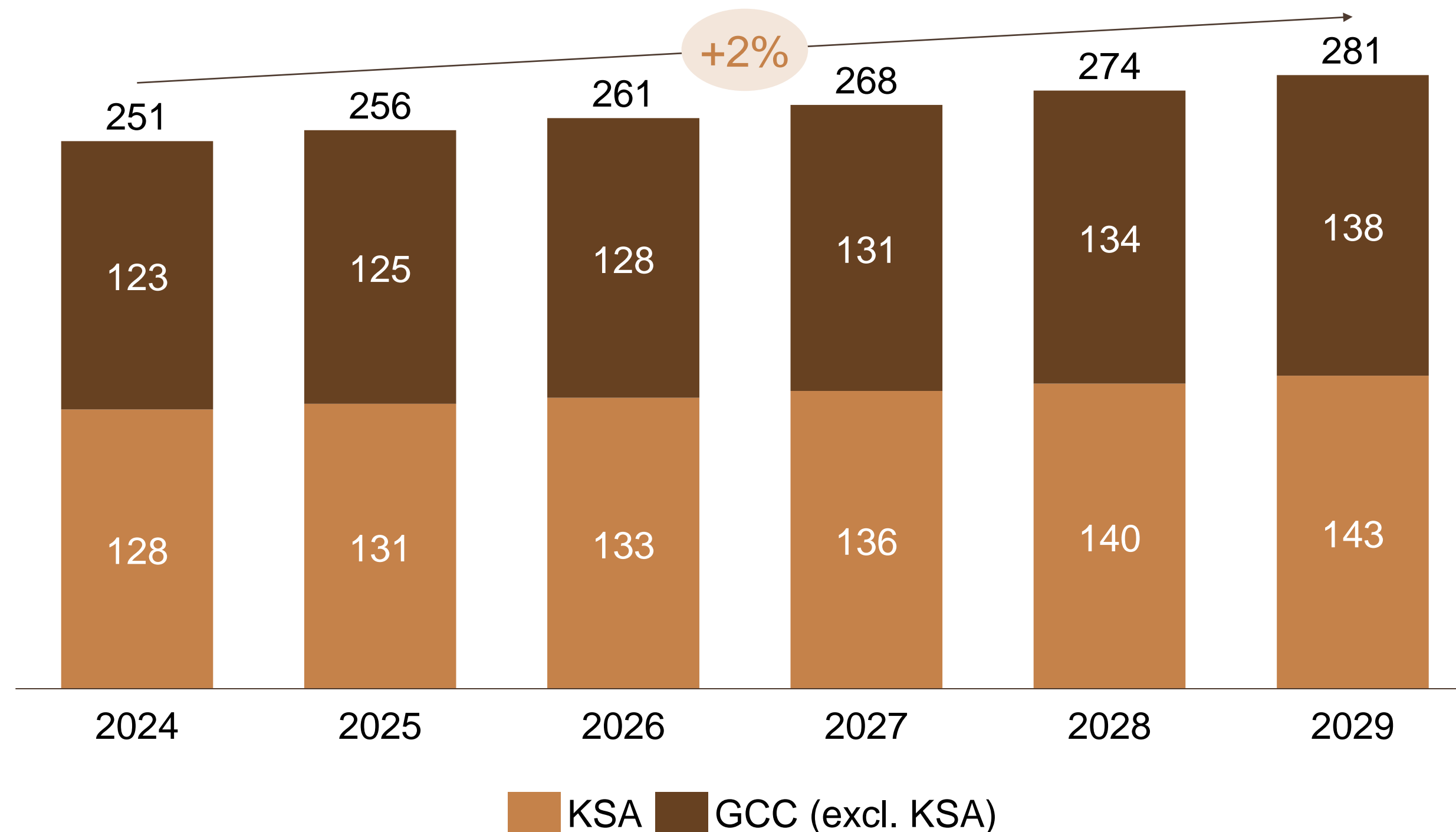
## Socket weld flanges



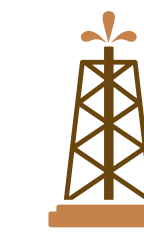
- Suitable for small-diameter high-pressure pipelines

# Flanges demand, customers, and drivers

Forecasted KSA and rest of GCC flanges market 2024-2029 (\$MM)



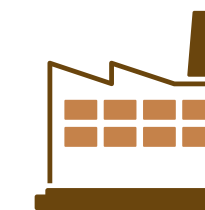
## Typical flanges customers in KSA



Oil & gas sector



Petrochemical industry



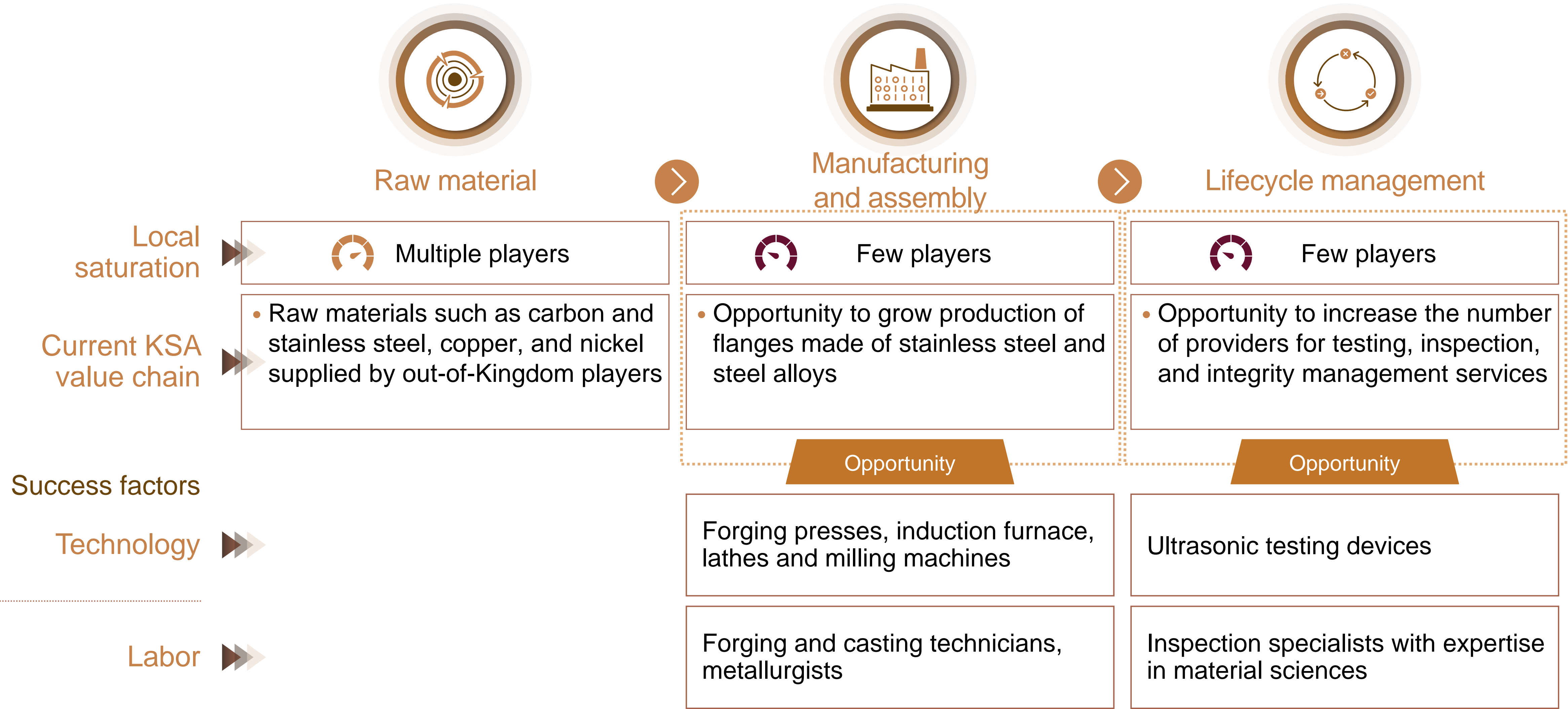
Utility providers

## Key KSA demand drivers

- **Sector growth:** KSA energy sector boosts demand for static and rotating as it remains core driver for economic growth
- **Industrial trends:** Demand for flanges for residential and commercial building utility pipelines is driven by construction sector growth at a 7.3% CAGR until 2032

Catalyzing Supply Chains

# Value chain and key localization opportunities



**Catalyzing Supply Chains**

Note: Intermediate processes are completed by manufacturing companies as raw materials are directly processed to produce flanges

Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Financial program:** Access to CAPEX financing programs from SIDF to purchase equipment for forging, casting, and milling



**Export assistance:** Saudi EXIM offers tailored export credits, guarantees, and insurance services for locally manufactured products



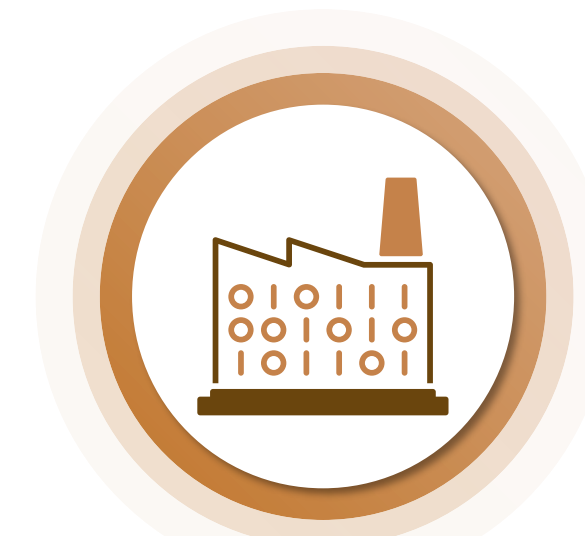
**Tax incentives:** Tax credits on R&D investments to encourage innovation in local flanges manufacturing



**Human capital enablers:** ITQAN Institute offering specialized training for inspection and maintenance services

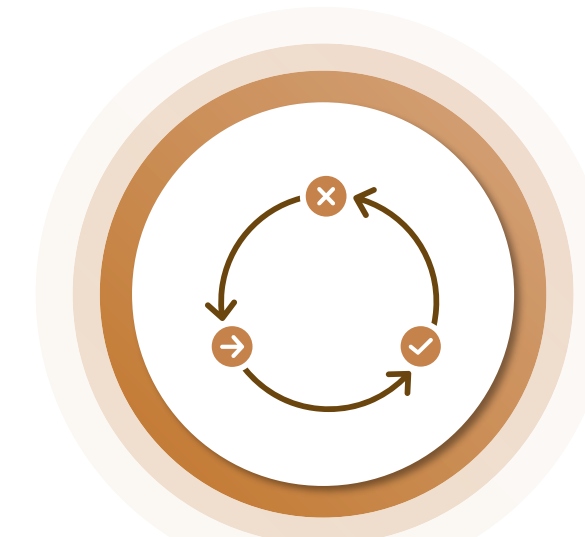


## Where is the opportunity



Manufacturing

Opportunity to grow production of stainless steel and steel alloy flanges



Lifecycle management

Opportunity to increase number of providers for testing, inspection and integrity management services

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup

Note: SIDF = Saudi Industrial Development Fund; ITQAN = Inspection Technology and Quality Assurance National Institute

Source: Team analysis

## Fittings

*Abdulrahman Alotaibi*

# Opportunity profile—fittings

1

KSA in need of fittings for energy and water infrastructure projects

## Types



Elbows

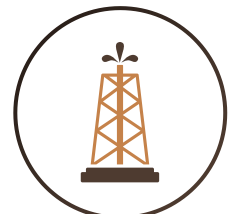


Tees

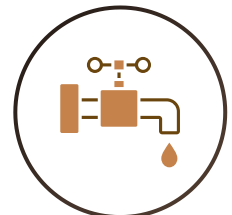


Expanders/  
reducers

## Applications



Oil and gas infrastructure



Water supply systems



Sewage systems

## Example

Pipelines

NEOM

ISTPs

Catalyzing Supply Chains

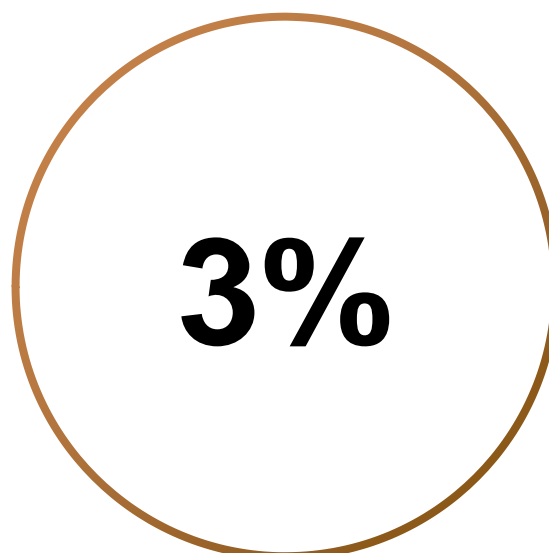
Note: ISTP = Independent Sewage Treatment Plant  
 Source: EMIS; The Insight Partners; Team analysis

2

The market for fittings is growing at a moderate rate in KSA and GCC



Estimated 2024 KSA market size. \$MM

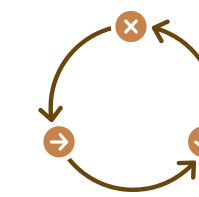


Forecasted 5-year CAGR

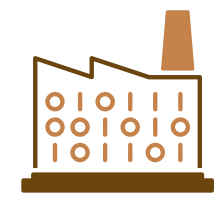
3

Attractive investment opportunities for the fittings value chain

## KSA value chain opportunities



Lifecycle management



Manufacturing

## KSA enablers

- Subsidized loans for machinery
- Custom duty exemptions on exports
- Streamlined skilled expat visa

# Potential fittings localized categories

Non-exhaustive

## Elbows



## Tees



## Expanders/Reducers



### Applications

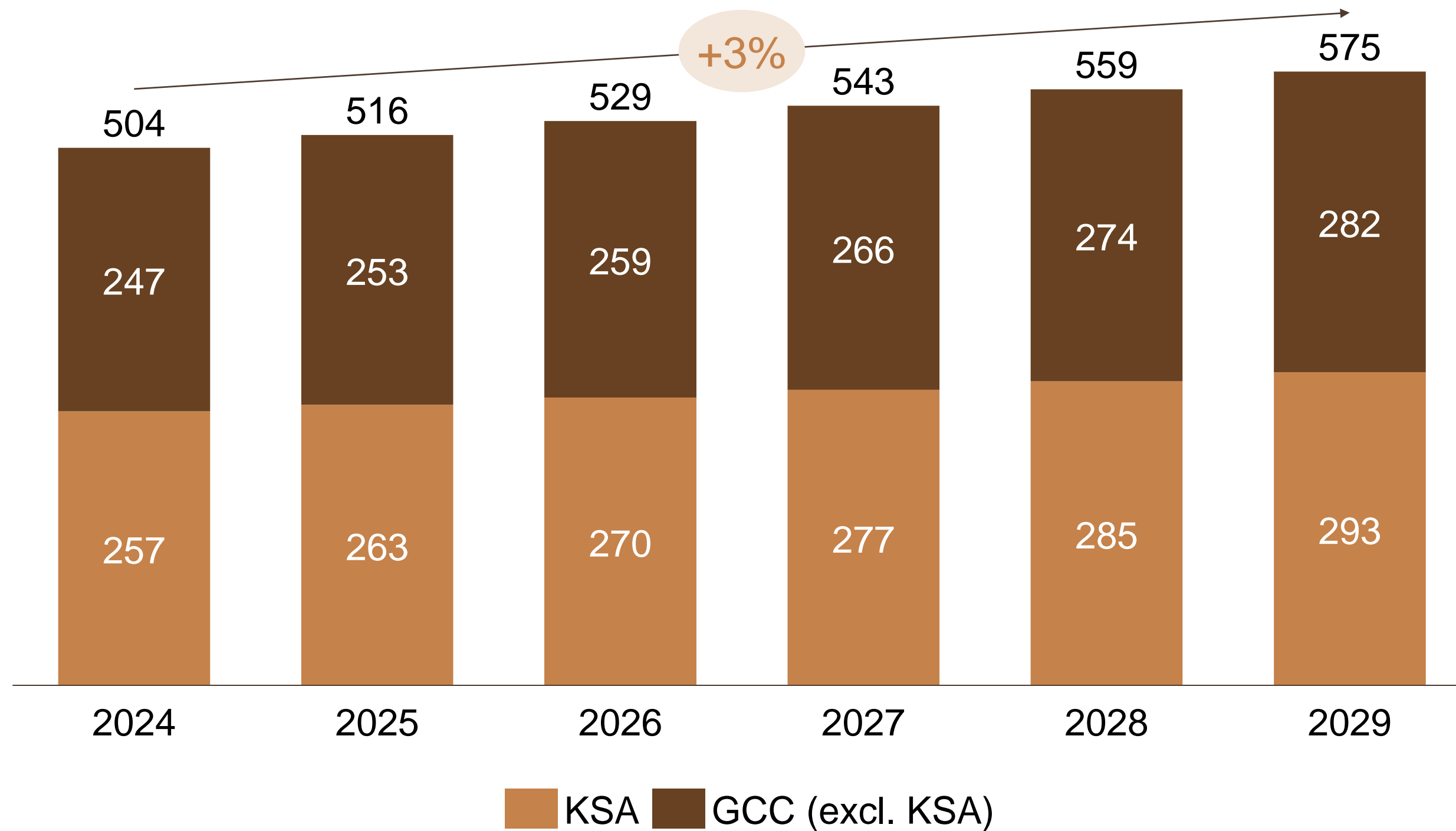
- Change direction of pipe flow (e.g., 45°, 90° angles)

- Split or combine flow from pipes into three directions

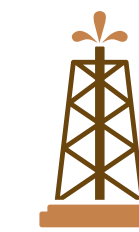
- Transition flow between pipes of different diameter

# Fittings demand, customers, and drivers

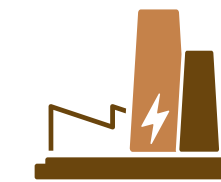
Forecasted KSA and rest of GCC fittings market 2024-2029 (\$MM)



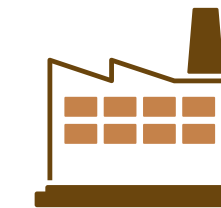
## Typical pipe coatings customers in KSA



Oil & gas sector



Power generation companies



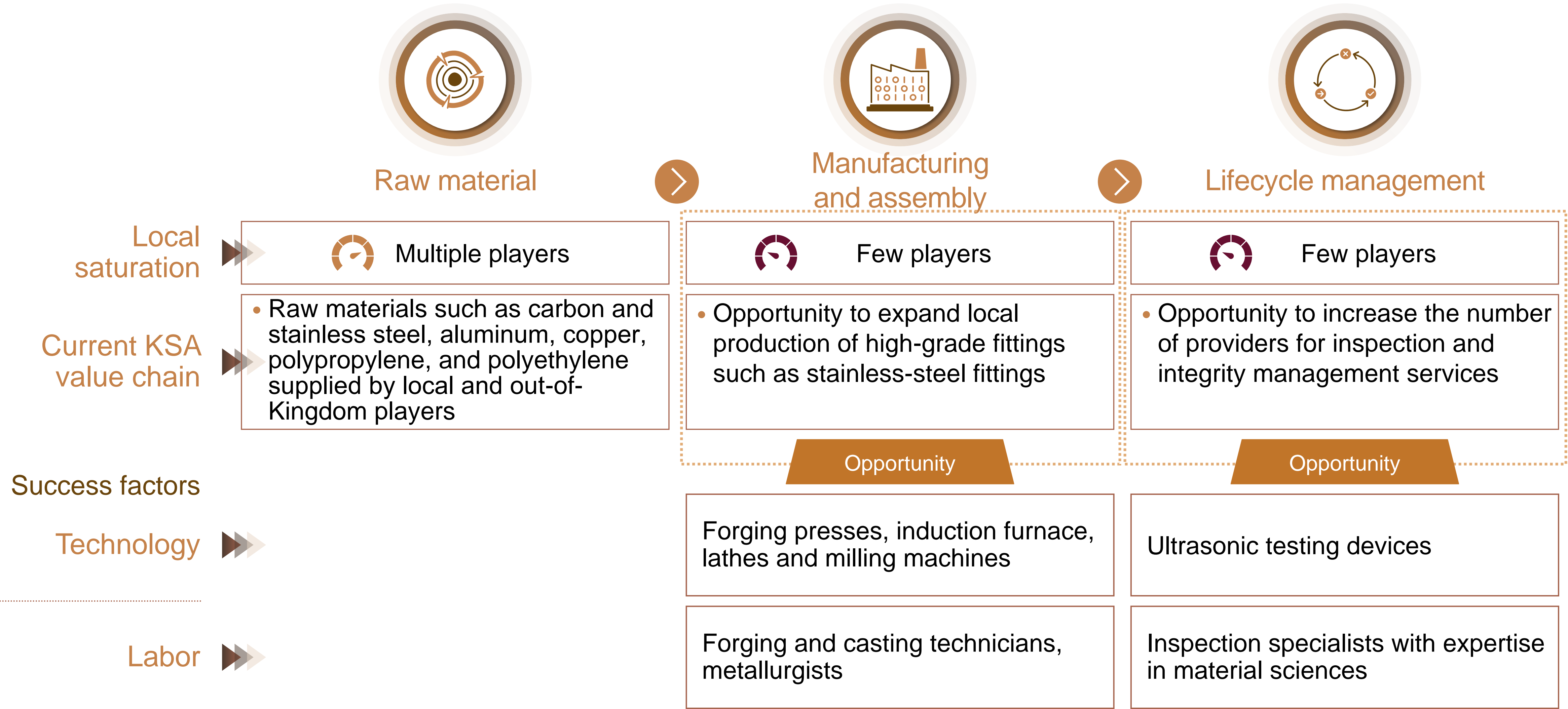
Utility providers

## Key KSA demand drivers

- **Sector growth:** Energy investments remain the driving engine for KSA economic growth, boosting the demand for fittings
- **Industrial trends:** Fittings demand expected to grow due to their crucial role in upcoming KSA water system expansions such as water transmission lines and desalination plants

Catalyzing Supply Chains

# Value chain and key localization opportunities



**Catalyzing Supply Chains**

Note: Intermediate processes are completed by manufacturing companies as raw materials are directly processed to produce fittings

Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



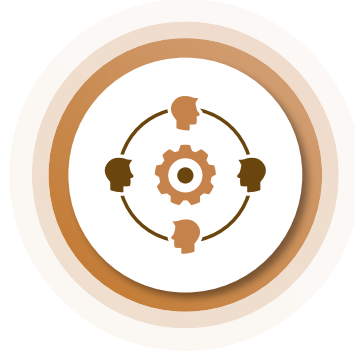
**Financial support:** Access to subsidized loans from SABIC's NUSANED program for plant setup and equipment



**Customs enablers:** Custom duty exemption from MoCI on machinery and equipment for establishment of fittings producers



**Skilled visa processing:** MHRSD facilitates hiring expatriates with technical expertise through streamlined visa processes



**Quality certification funding:** Funding by SIDF to obtain necessary certifications to meet industry standards

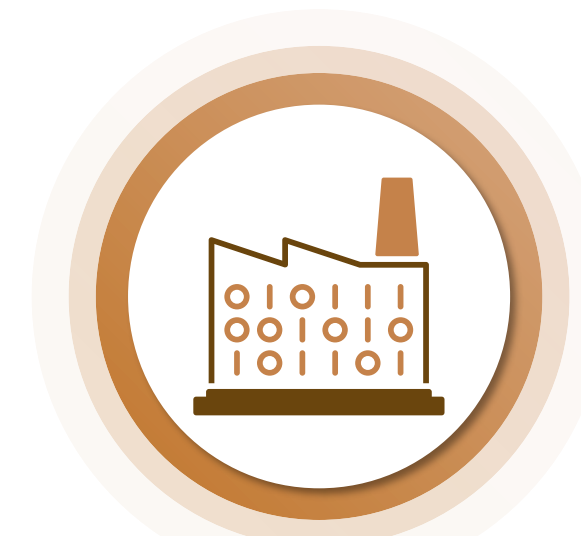
### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup;

Note: MoCI = Ministry of Commerce and Industry; MHRSD = Ministry of Human Resource and Social Development; SIDF = Saudi Industrial Development Fund

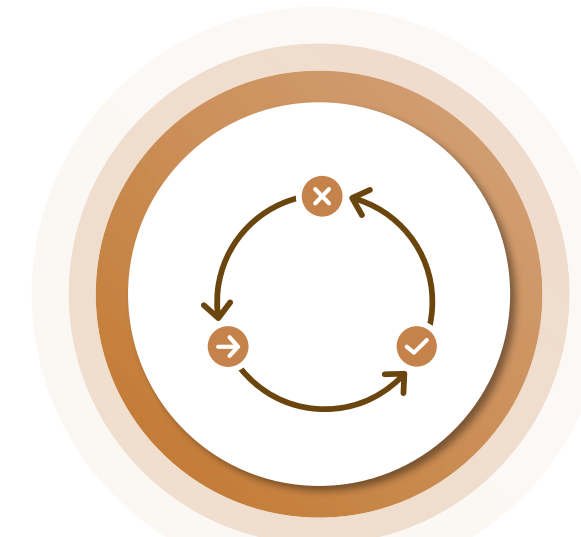
Source: Team analysis

## Where is the opportunity



Manufacturing

Opportunity to expand local production of high-grade fittings such as stainless-steel fittings



Lifecycle management

Opportunity to increase the number of providers for inspection and integrity management services such as certified non-destructive testing

## Cranes

*Abdulrahman Alotaibi*

# Opportunity profile—cranes

1

KSA has a strong demand for cranes to realize ongoing megaprojects

### Types



Overhead

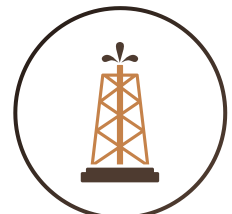


Pedestal

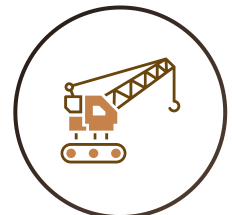


Tower

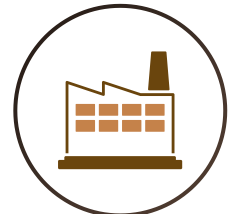
### Applications



Oil and gas



Construction



Manufacturing industry

### Example

Offshore structures

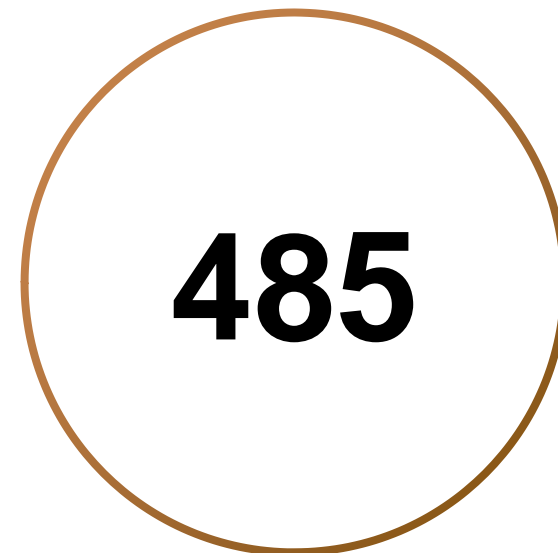
NEOM

Industrial cities

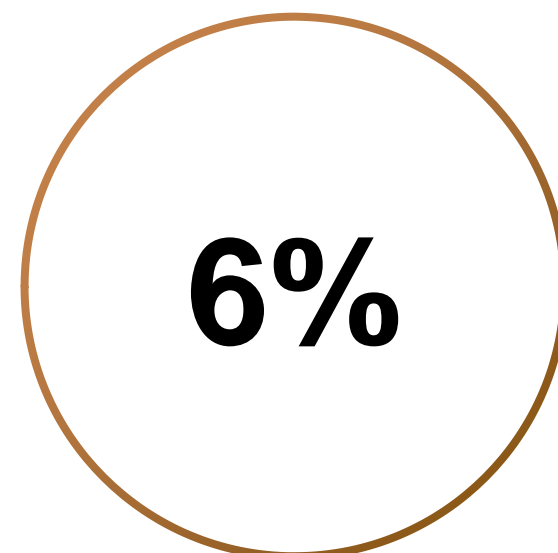
Catalyzing Supply Chains

2

The cranes market experiences a steady increase in KSA and GCC



Estimated 2024 KSA market size. \$MM

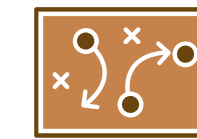


Forecasted 5-year CAGR

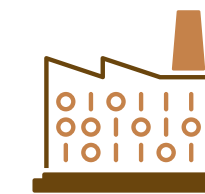
3

Attractive investment opportunities for the cranes value chain

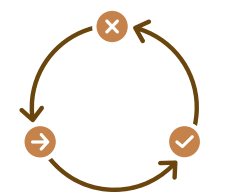
### KSA value chain opportunities



Intermediate processes



Manufacturing



Lifecycle management

### KSA enablers

- Financial loans for manufacturing
- Land lease subsidies
- Subsidized training programs

# Potential cranes localized categories

Non-exhaustive

## Overhead crane



### Applications

- Operate along a fixed path in factories or warehouses
- Efficient for indoor lifting and repetitive tasks

## Pedestal crane



- Used mainly for offshore
- Used to transfer materials to or from marine vessels, barges and structures

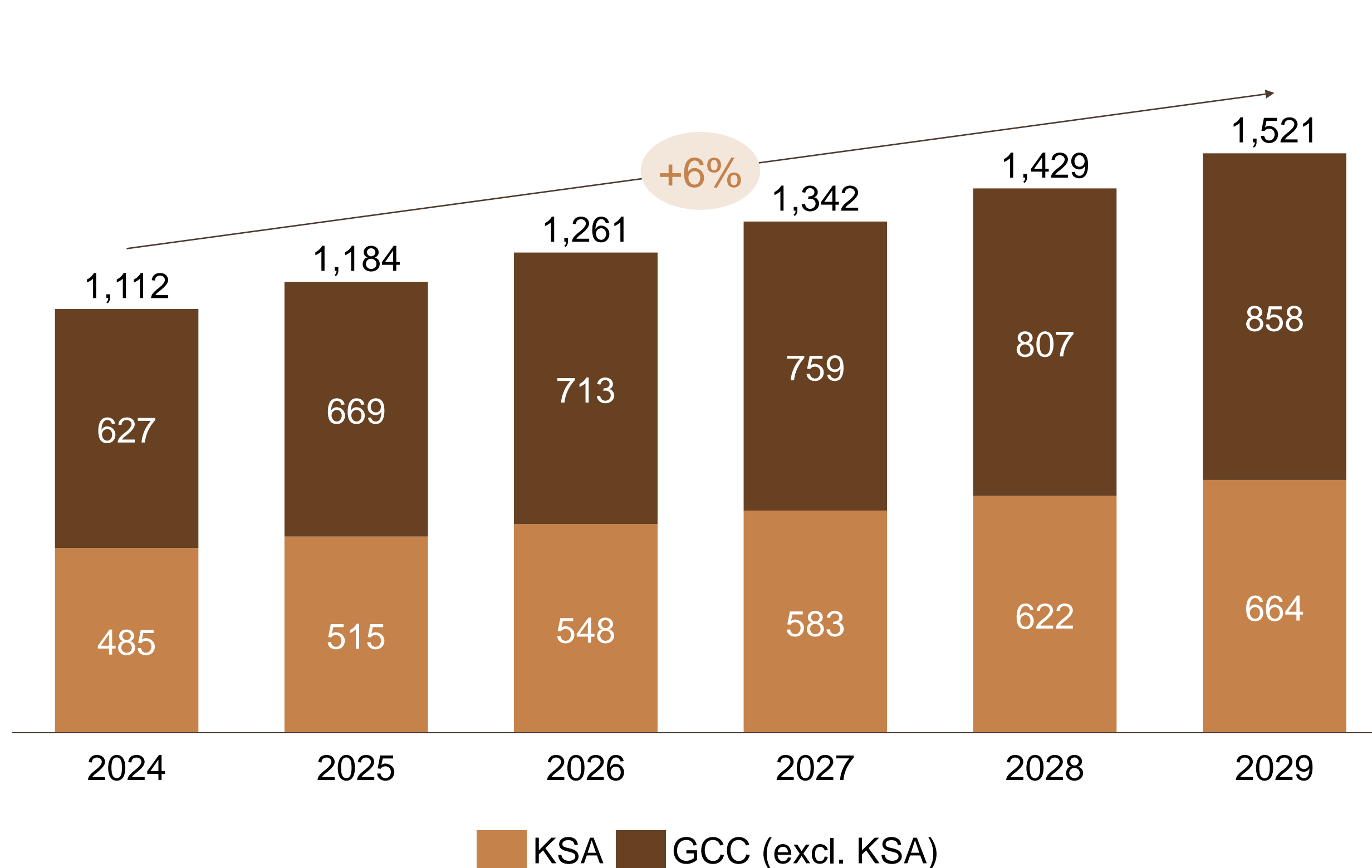
## Tower crane



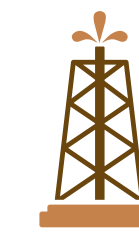
- Used often in construction
- Fixed to ground or building
- Provide exceptional height and lifting capacity

# Cranes demand, customers, and drivers

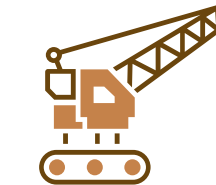
Forecasted KSA and rest of GCC cranes market 2024-2029 (\$MM)



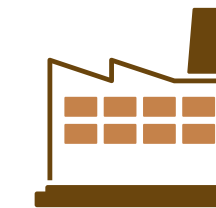
## Typical cranes customers in KSA



Oil & gas sector



Construction companies

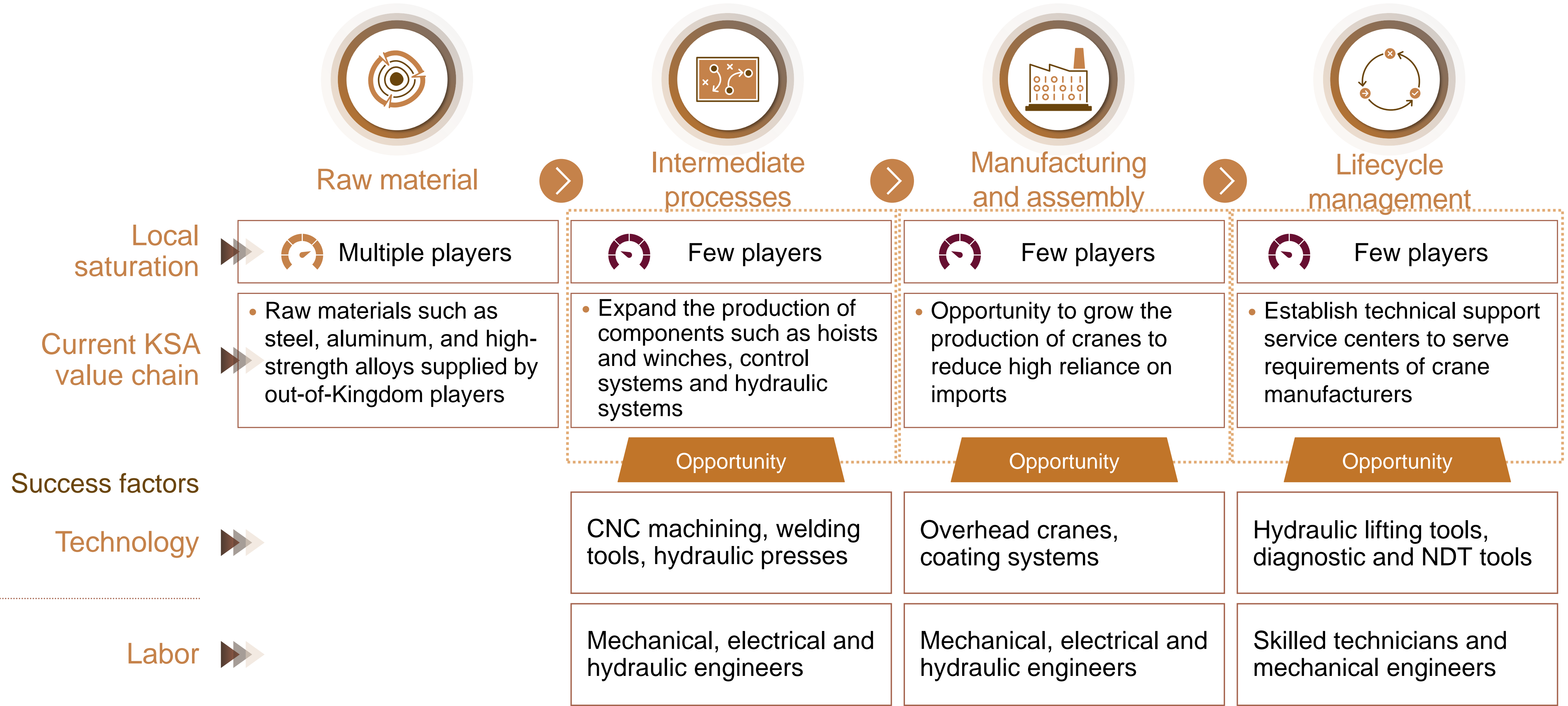


Manufacturing industry

## Key KSA demand drivers

- **Industry trends:** Construction sector grows at a 7.3% CAGR until 2032, fueling the demand for cranes to realize major infrastructure projects
- **Supply chain localization:** Ambition of KSA to achieve 70% localization of all spending boosts the manufacturing industry that relies on crane systems

# Value chain and key localization opportunities



Catalyzing Supply Chains

Note: Lifecycle management including all post-production services, including installation; NDT = Non-destructive testing  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



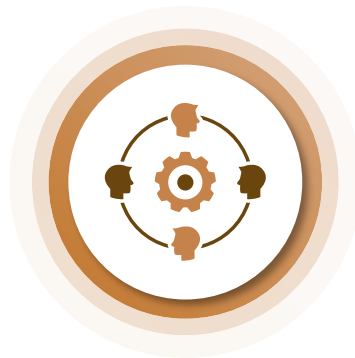
**Financial incentives:** Access to financial loans such as Kafalah by SIDF for establishing crane manufacturing plants



**Investment facilitation:** Market insights and detailed demand forecasts for key resources provided by MISA



**Land access:** Subsidized land for plant setup across industrial zones under MODON, Royal Commission for Jubail and Yanbu, etc.



**Workforce development:** Fully covered or subsidized training programs by HRDF and SEDA for productions operations

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup; Note: SIDF = Saudi Industrial Development Fund; MISA = Ministry of Investment Saudi Arabia; MODON = Saudi Authority for Industrial Cities and Technology Zones; HRDF = Human Resource Development Fund; SEDA = Saudi Export Development Authority  
 Source: Team analysis

## Where is the opportunity



Intermediate processes

Expand production of components such as hoists and winches, control systems and hydraulic systems



Manufacturing

Opportunity to grow production of cranes to reduce high reliance on imports



Lifecycle management

Establish technical support service centers to serve requirements of crane manufacturers

## Heat Exchanger

*Abdulrahman Alotaibi*

# Opportunity profile—heat exchangers

1

KSA requires heat exchangers for energy and infrastructure projects

### Types



Shell & tube

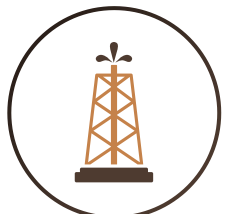


Plate

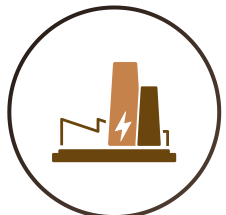


Air-cooled

### Applications



Oil and gas



Power generation



Buildings and infrastructure

### Example

Process fluids

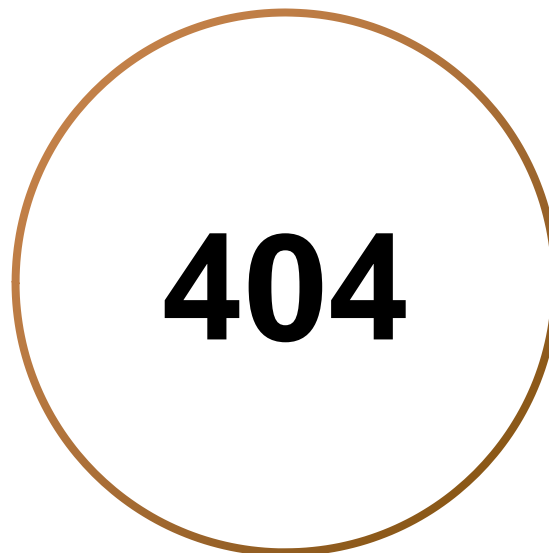
Cool gas turbines

HVAC systems

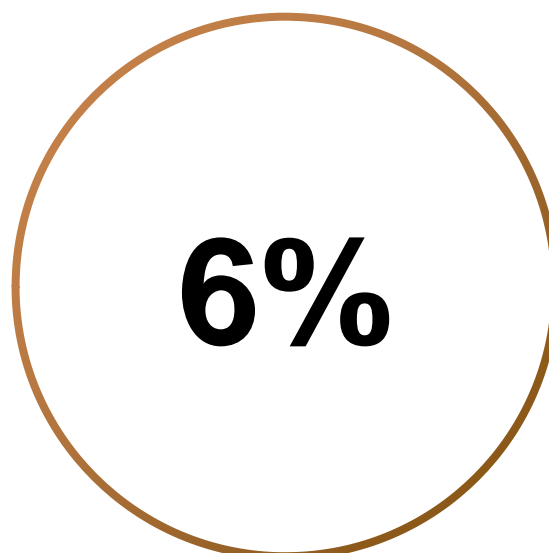
Catalyzing Supply Chains

2

Heat exchanger market is sizeable with steady forecasted growth



Estimated 2024 KSA market size. \$MM

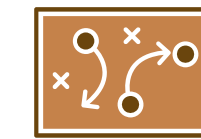


Forecasted 5-year CAGR

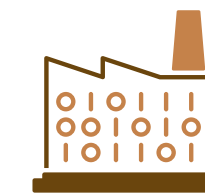
3

Attractive investment opportunities for the heat exchanger value chain

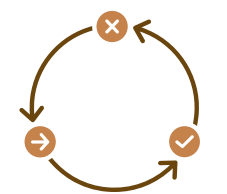
### KSA value chain opportunities



Intermediate processes



Manufacturing



Lifecycle management

### KSA enablers

- CAPEX financing programs
- Land and infrastructure subsidies
- Subsidized workforce training

Note: HVAC = Heating, Ventilation, and Air Conditioning  
 Source: Markets and Markets; Markets and Data; Team analysis

# Potential heat exchangers localized categories

Non-exhaustive

## Shell and tube heat exchanger



- Consist of tubes within a cylindrical shell
- Common in oil refineries and chemical processing plants

## Plate heat exchanger



- Use thin, flat plates with channels for fluid flow
- Often used in HVAC systems and refrigeration

## Air-cooled heat exchanger

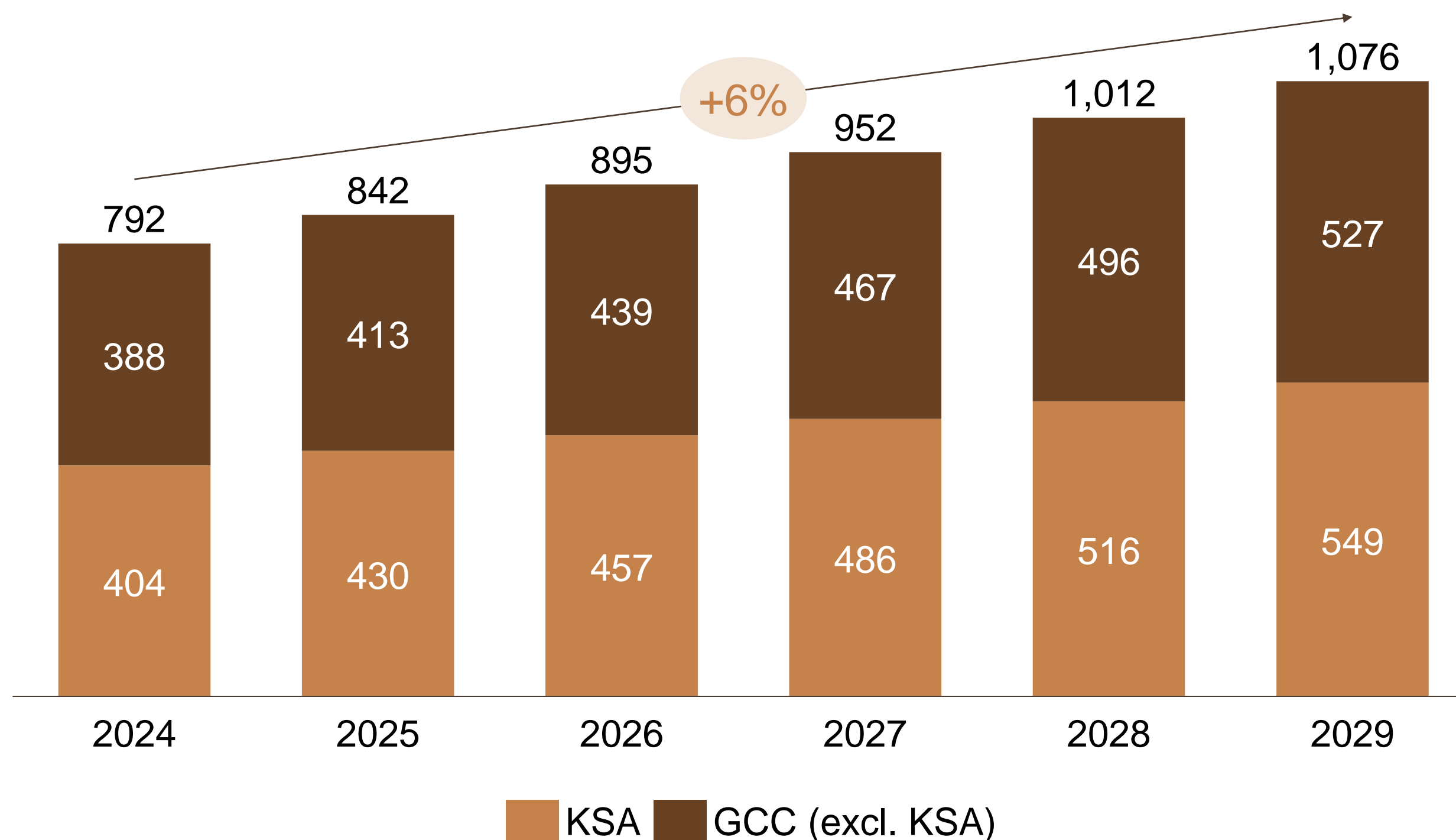


- Use fans to circulate air over a heat exchanger surface
- Used in oil refineries, power plants, and petrochemical

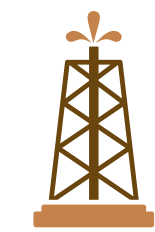
### Applications

# Heat exchangers demand, customers, and drivers

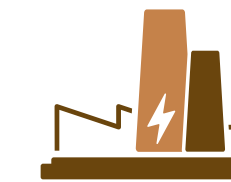
Forecasted KSA and rest of GCC heat exchanger market 2024-2029 (\$MM)



## Typical heat exchanger customers in KSA



Oil & gas sector



Power generation companies



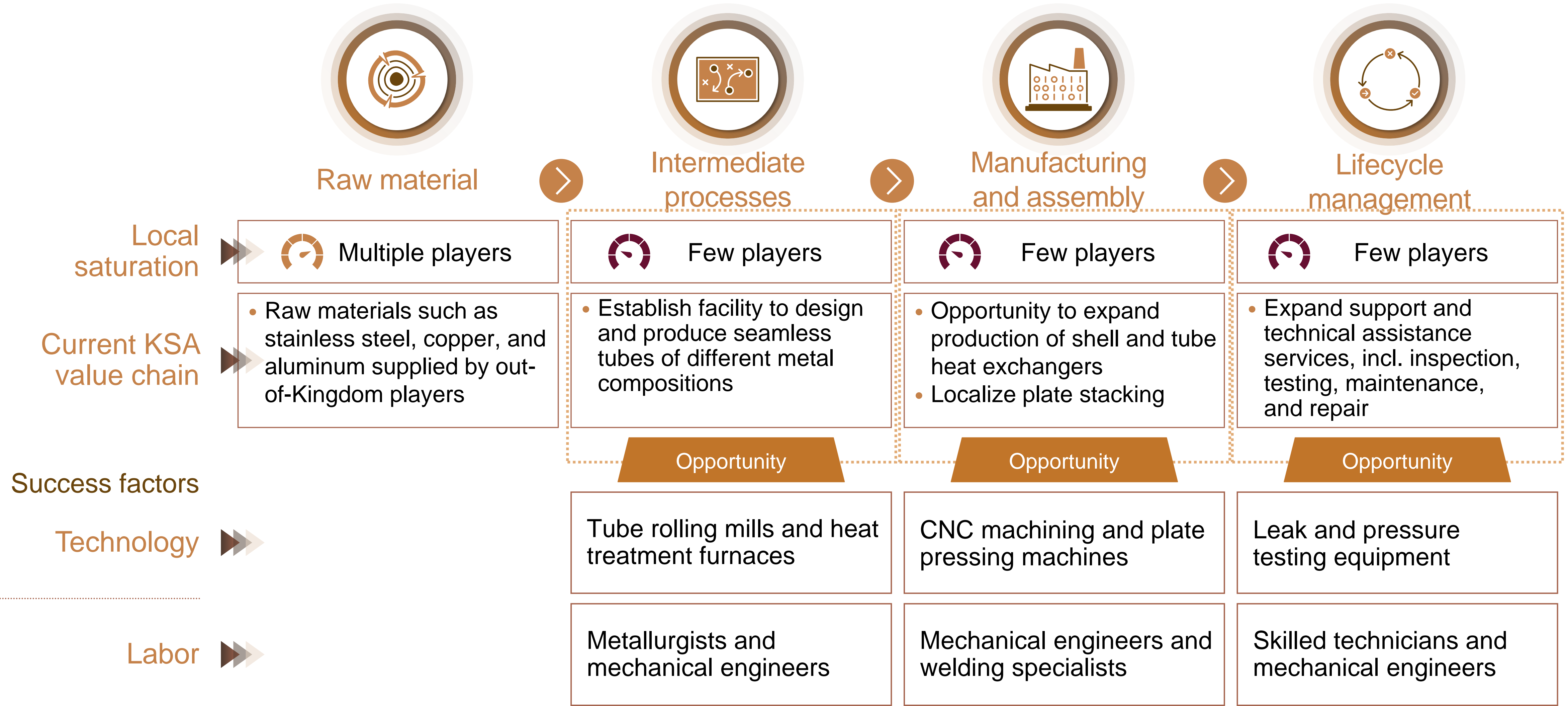
Petrochemical plants

## Key KSA demand drivers

- **Industrial expansion:** Growth in sectors like energy, petrochemical and power generation is boosting demand for heat exchangers
- **Energy efficiency initiatives:** Government policies promoting energy efficiency and sustainability are driving the adoption of advanced heat exchanger technologies

Catalyzing Supply Chains

# Value chain and key localization opportunities



Catalyzing Supply Chains

Note: Lifecycle management including all post-production services, including installation  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



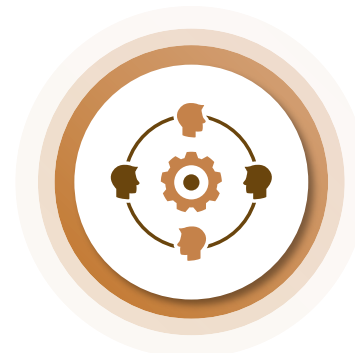
**Financial enablers:** SIDF provides CAPEX loans for specialized equipment procurement and local facility setup



**Land and infrastructure:** Subsidized land and infrastructure in economic zones such as those provided by MODON reduces setup costs



**Customs enablers:** Custom duty exemption from MoCI on machinery and equipment for establishment of local manufacturers



**Workforce development:** Fully covered or subsidized training programs by HRDF and SEDA for productions operations



## Where is the opportunity



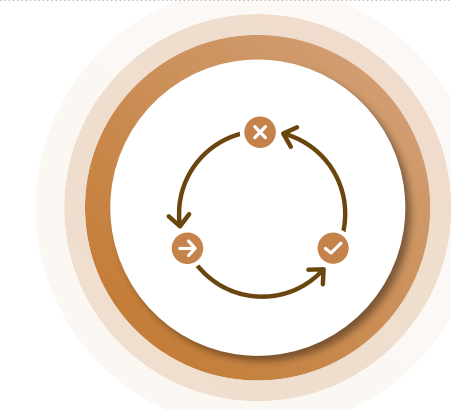
Intermediate processes

Establish facility to design and produce seamless tubes of different metal compositions



Manufacturing

Opportunity to expand production of shell and tube heat exchangers and to localize plate stacking process for plate type



Lifecycle management

Expand support and technical assistance services

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup; Note: SIDF = Saudi Industrial Development Fund; MODON = Saudi Authority for Industrial Cities and Technology Zones; MoCI = Ministry of Commerce and Industry; HRDF = Human Resource Development Fund; SEDA = Saudi Export Development Authority  
Source: Team analysis

## Boilers

*Mohammed Alotaibi*

# Opportunity profile—boilers

1

KSA requires boilers to realize its ongoing oil and gas expansion

### Types



Fire-tube

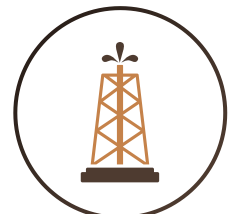


Water-tube

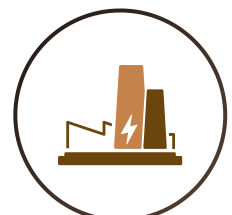


Steam

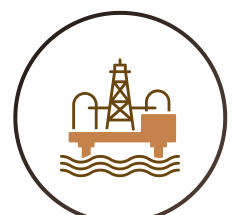
### Applications



Oil and gas drilling



Power generation



Refining processes

### Example

Drilling rig hot water

Steam for turbines

Heat for oil refining

Catalyzing Supply Chains

2

The boiler market is sizable and grows at a steady rate

274

Estimated 2024 KSA market size. \$MM

4%

Forecasted 5-year CAGR

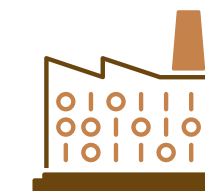
3

Attractive investment opportunities for the boiler value chain

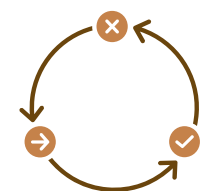
### KSA value chain opportunities



Intermediate processes



Manufacturing



Lifecycle management

### KSA enablers

- Working capital financing
- Customs duty exemptions on exports
- Streamlined visa process by MHRSD to facilitate skilled expat hiring

# Potential boilers localized categories

Non-exhaustive

## Fire-tube boilers



- Feature hot gas pass through tubes surrounded by water
- Suitable for low to medium pressure applications

## Water-tube boilers



- Contain water in tubes heated by external combustion gases
- Ideal for high-pressure and high-temperature needs

## Steam boilers

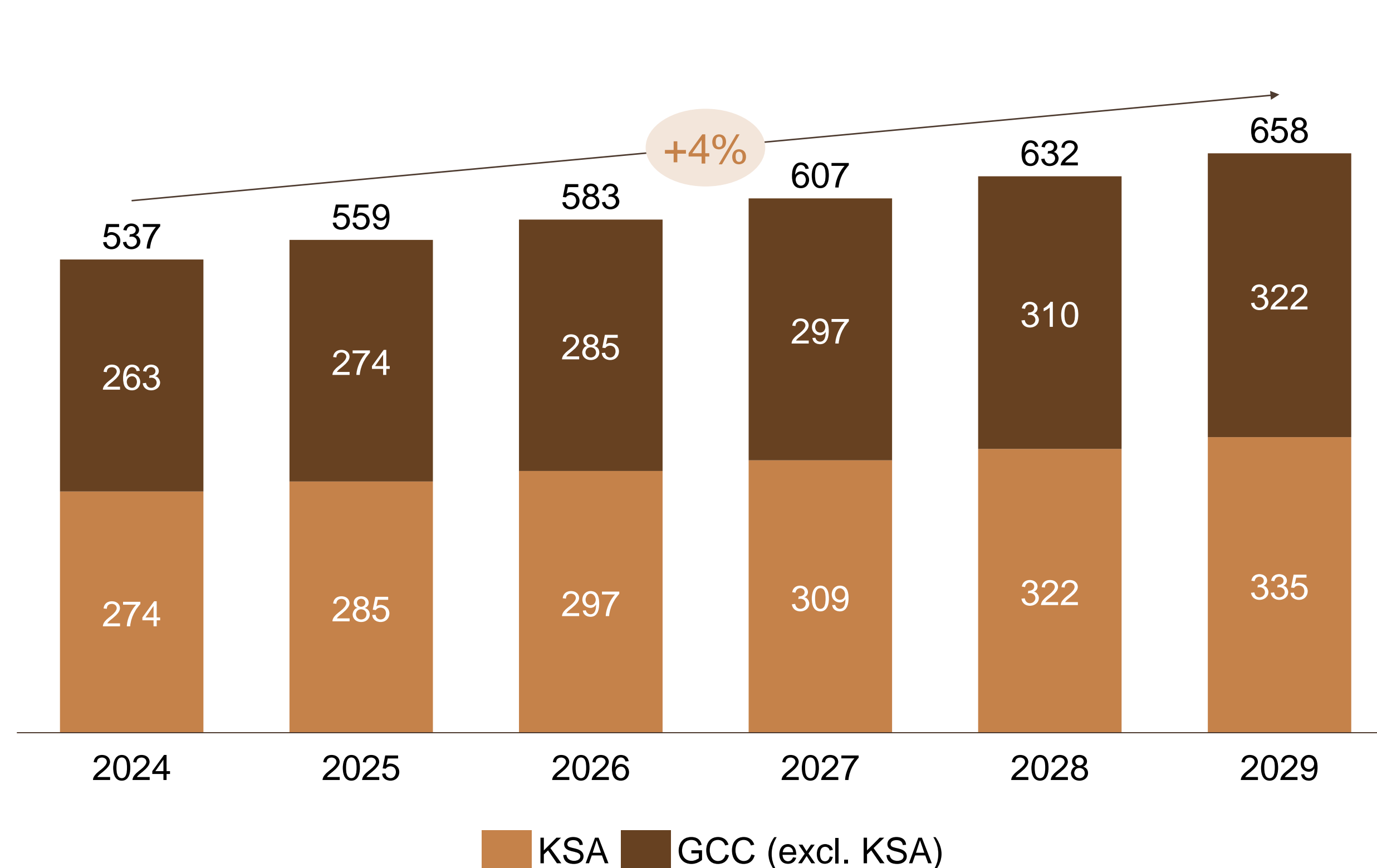


- Produce steam for various uses, such as heating and power generation

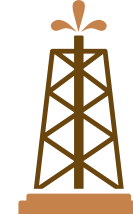

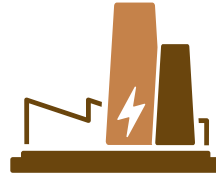
### Applications

# Boiler demand, customers, and drivers

Forecasted KSA and rest of GCC boiler market 2024-2029 (\$MM)



## Typical boiler customers in KSA

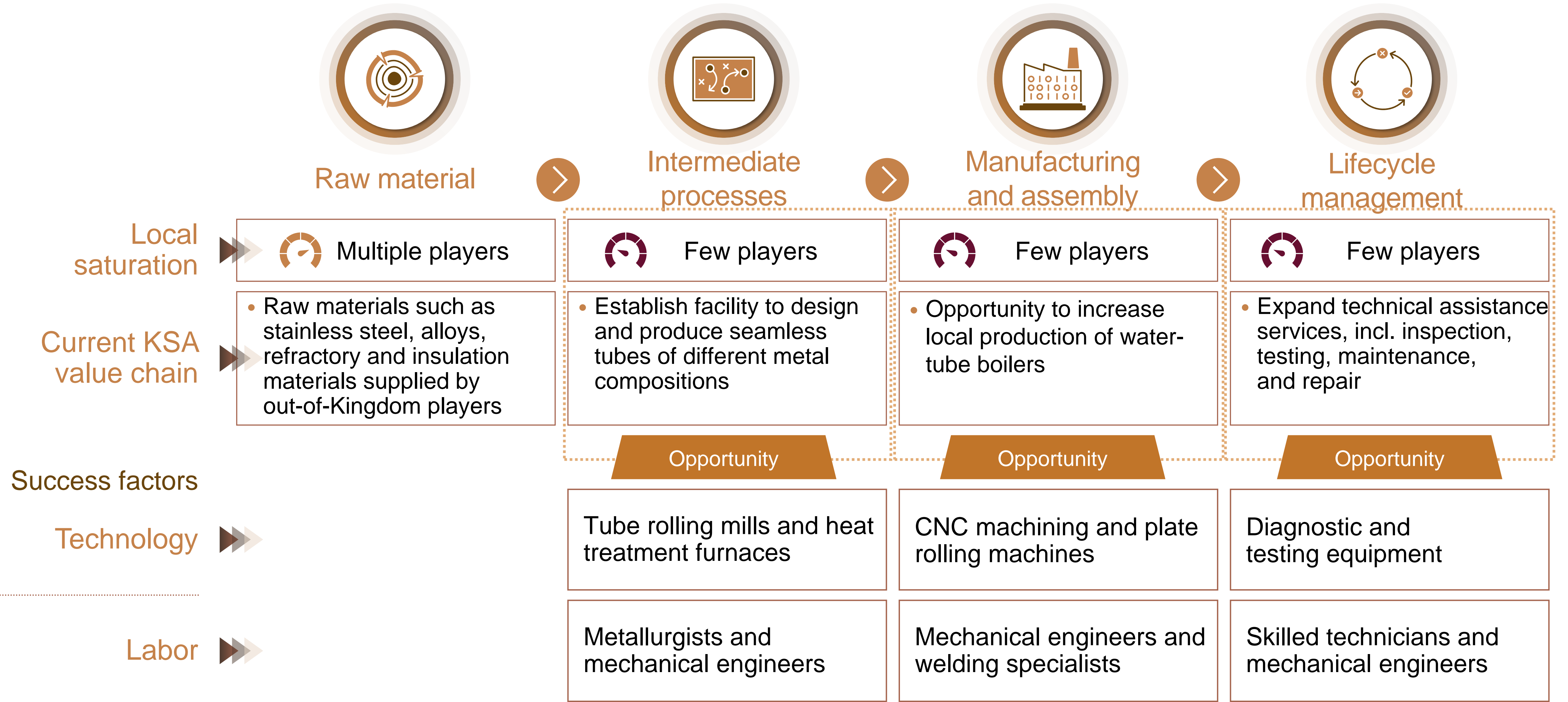
-  Oil & gas sector
-  Refineries
-  Power generation companies

## Key KSA demand drivers

- **Industry trends:** Growth of petrochemical requires boilers for steam generation and process heating, essential for operations like distillation and chemical reactions
- **Infrastructure expansion:** The development of urban infrastructure, including schools, hospitals, and commercial spaces, requires boilers for heating applications

Catalyzing Supply Chains

# Value chain and key localization opportunities



Catalyzing Supply Chains

Note: Lifecycle management including all post-production services, including installation; CNC = Computer Numerical Control  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Financial incentives:** SIDF offers working capital loans in the initial phase and benefits for SMEs under Afaq program for plant setup



**Fiscal incentives:** Customs duty exemptions provided by SEDA and ZATCA on exports to wider GCC markets



**Skilled visa processing:** MHRSD facilitates hiring expats with technical expertise on gas turbines via streamlined visa processes



**Human capital enablers:** ITQAN Institute offering specialized training for inspection and maintenance services

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup; Note: SIDF = Saudi Industrial Development Fund; SEDA = Saudi Export Development Authority; ZATCA = Zakat, Tax, and Customs Authority; MHRSD = Ministry of Human Resources and Social Development; ITQAN = Inspection Technology and Quality Assurance National Institute  
 Source: Team analysis

## Where is the opportunity



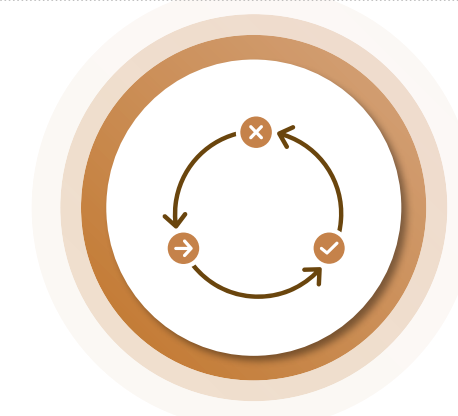
Intermediate processes

Establish facility to design and produce seamless tubes of different metal compositions



Manufacturing

Opportunity to increase local production of water-tube boilers



Lifecycle management

Expand technical assistance services

## **Bolts, Nuts & Rivets**

*Mohammed Alotaibi*

# Opportunity profile—fasteners

1

KSA requires fasteners across many sectors of its growing economy

### Types

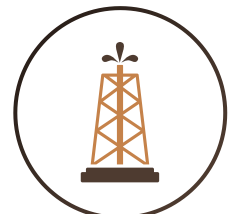


Bolts and nuts

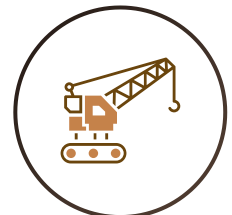


Rivets

### Applications



Oil and gas



Construction



Automotive

### Example

Pipeline joints

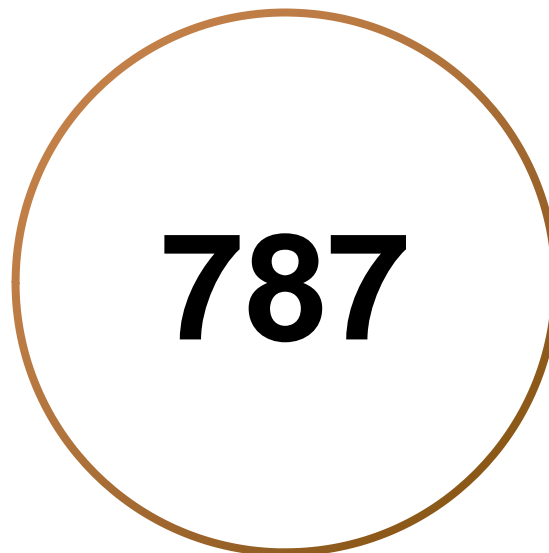
Steel structures

Car chassis

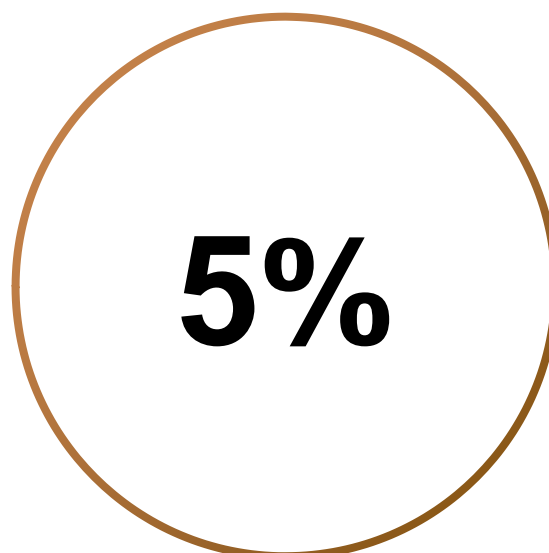
Catalyzing Supply Chains

2

The fasteners market is sizeable with steady forecasted growth



Estimated 2024 KSA market size. \$MM

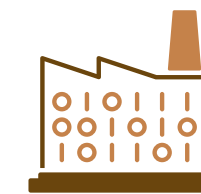


Forecasted 5-year CAGR

3

Attractive investment opportunities for the fasteners value chain

### KSA value chain opportunities



Manufacturing

### KSA enablers

- Infrastructure, land and utility subsidies
- Realization of megaprojects
- NITI training for corrosion-specialists

Note: Fasteners refers to bolts, nuts, and rivets  
 Source: EMIS; Arizton Advisory & Intelligence; Team analysis

# Potential fasteners localized categories

Non-exhaustive

## Bolts and nuts



- Pipeline flange connections
- Pressure vessels
- Turbine tower foundations
- Joints at buildings and bridges

## Rivets



- Storage tanks and silos
- Permanent joints in offshore rigs
- Aircrafts and marine vessels
- Joints at buildings and bridges

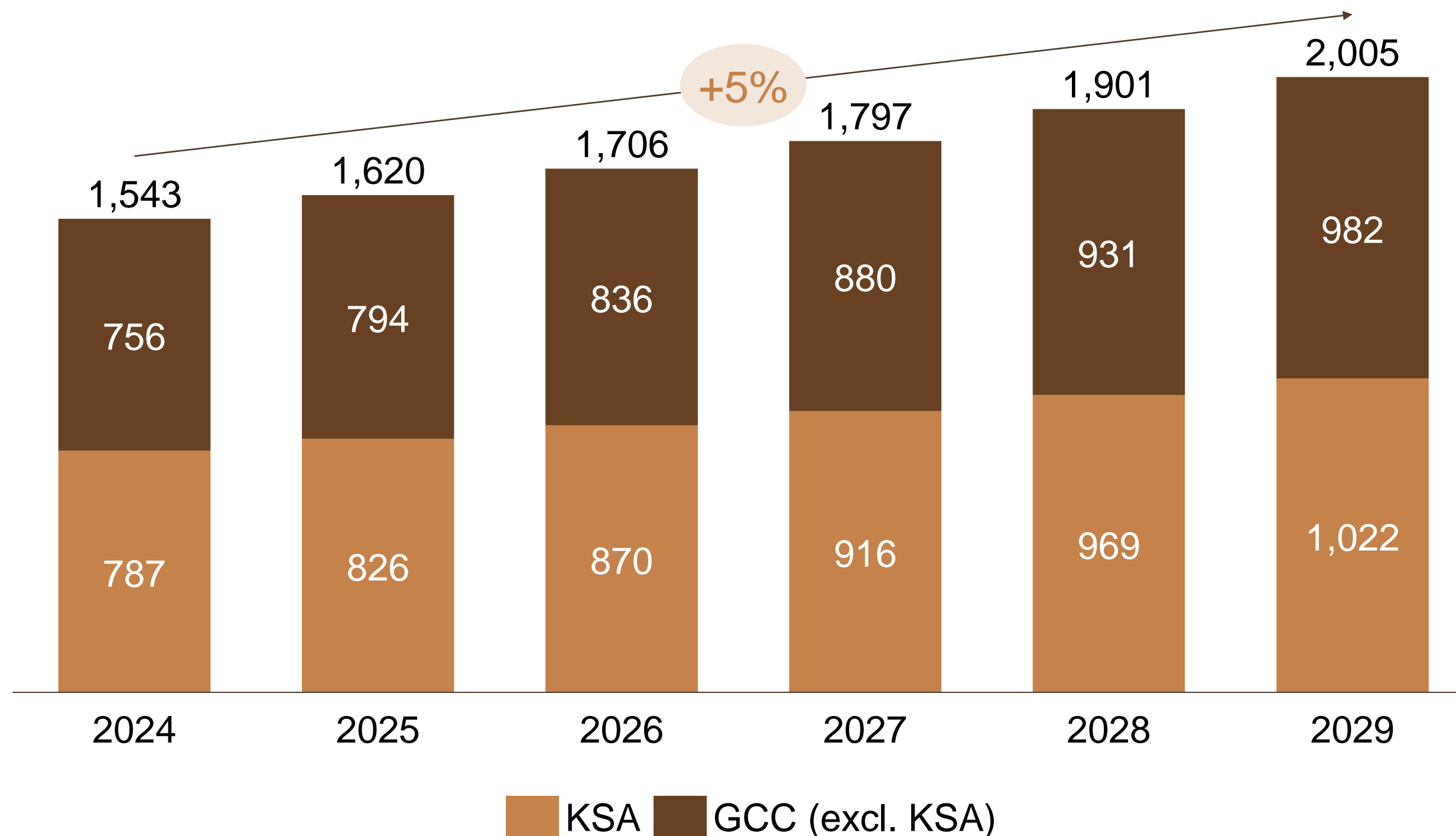
### Applications

#### Catalyzing Supply Chains

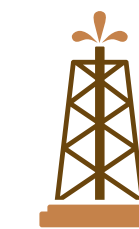
Note: Fasteners refers to bolts, nuts, and rivets; Bolts and nuts are generally used in combination  
Source: Team analysis

# Fasteners demand, customers, and drivers

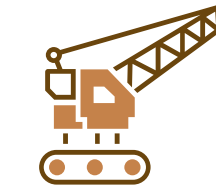
Forecasted KSA and rest of GCC fasteners market 2024-2029 (\$MM)



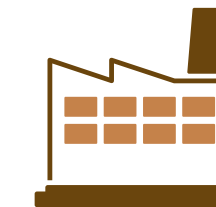
## Typical fasteners customers in KSA



Oil & gas sector



Construction companies



Utility providers

## Key KSA demand drivers

- **Sector growth:** Energy investments remain the core driving engine for KSA economic growth, boosting the demand for fasteners
- **Industry trends:** Construction sector grows at a CAGR of 7.3% until 2032, fueling the need for fasteners for buildings and bridges

### Catalyzing Supply Chains

Note: Fasteners refers to bolts, nuts, and rivets  
Source: EMIS; Arizton Advisory & Intelligence; Team analysis

# Value chain and key localization opportunities



Raw material



Manufacturing and assembly

Local saturation

▶▶▶ Multiple players

Current KSA value chain

- ▶▶▶
- Raw materials such as carbon steel, stainless steel and alloys provided by out-of-Kingdom suppliers

Few players

- ▶▶▶
- Opportunity to grow the local production of bare carbon steel fasteners
  - Increase the local supply of coatings
  - Expand the number of local service providers for the application of coatings

Opportunity

Success factors

Technology



Wire drawing machines, heat treatment furnaces, cold heading and hot forging machines, coating machines

Labor



Heat treatment technicians, surface coating technicians, CNC machinists

### Catalyzing Supply Chains

Note: Intermediate processes are generally conducted by companies that manufacture and assemble bolts, nuts and rivets; Lifecycle management not applicable as fasteners are not maintained or repaired but replaced with new fasteners

Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Value chain network and financial programs:** Nusaned program to give access to raw materials and to financial investment to establish local fasteners manufacturing



**Subsidy enablers:** Subsidized infrastructure, land, and utilities in dedicated zones, e.g. via MODON, to attract local production



**Projects realization:** Projects such as new oil and gas expansions, NEOM, and Red Sea Project increase local demand for fasteners



**Human capital enablers:** NITI training programs to skill technicians and machinists to produce specialized fasteners

## Where is the opportunity



Opportunity to:

- Grow production of bare fasteners
- Increase the supply of coatings
- Expand the number of service providers for the application of coatings

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup

Note: MODON = Saudi Authority for Industrial Cities and Technology Zones; NITI = National Industrial Training Institute

Source: Team analysis

## Clamps

*Mohammed Alotaibi*

# Opportunity profile—clamps

1

KSA requires clamps to realize its ongoing oil and gas expansion

### Types



Pipe clamps

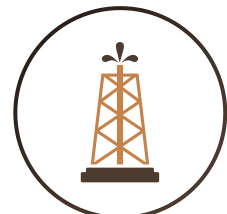


Safety clamps



Repair clamps

### Applications



Oil and gas infrastructure



Mining



Buildings

### Example

Pipeline systems

Drilling rigs

HVAC and plumbing

Catalyzing Supply Chains

2

The clamps market experiences a moderate increase in KSA and GCC

38

Estimated 2024 KSA market size. \$MM

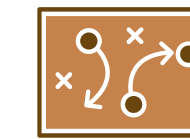
4%

Forecasted 5-year CAGR

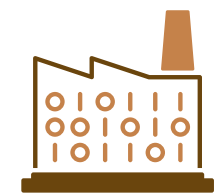
3

Attractive investment opportunities for the clamps value chain

### KSA value chain opportunities



Intermediate processes



Manufacturing

### KSA enablers

- Customs duty exemption on machinery
- Subsidized land and infrastructure
- Streamlined regulatory procedures with online approval portals

# Potential clamps localized categories

Non-exhaustive

## Pipe clamps



- Provide structural support to pipes in sectors like oil and gas, water treatment and construction

## Safety clamps



- Prevent drill pipes/casings from slipping during drilling
- Secure heavy materials like pipes or rods during lifting

## Repair clamps

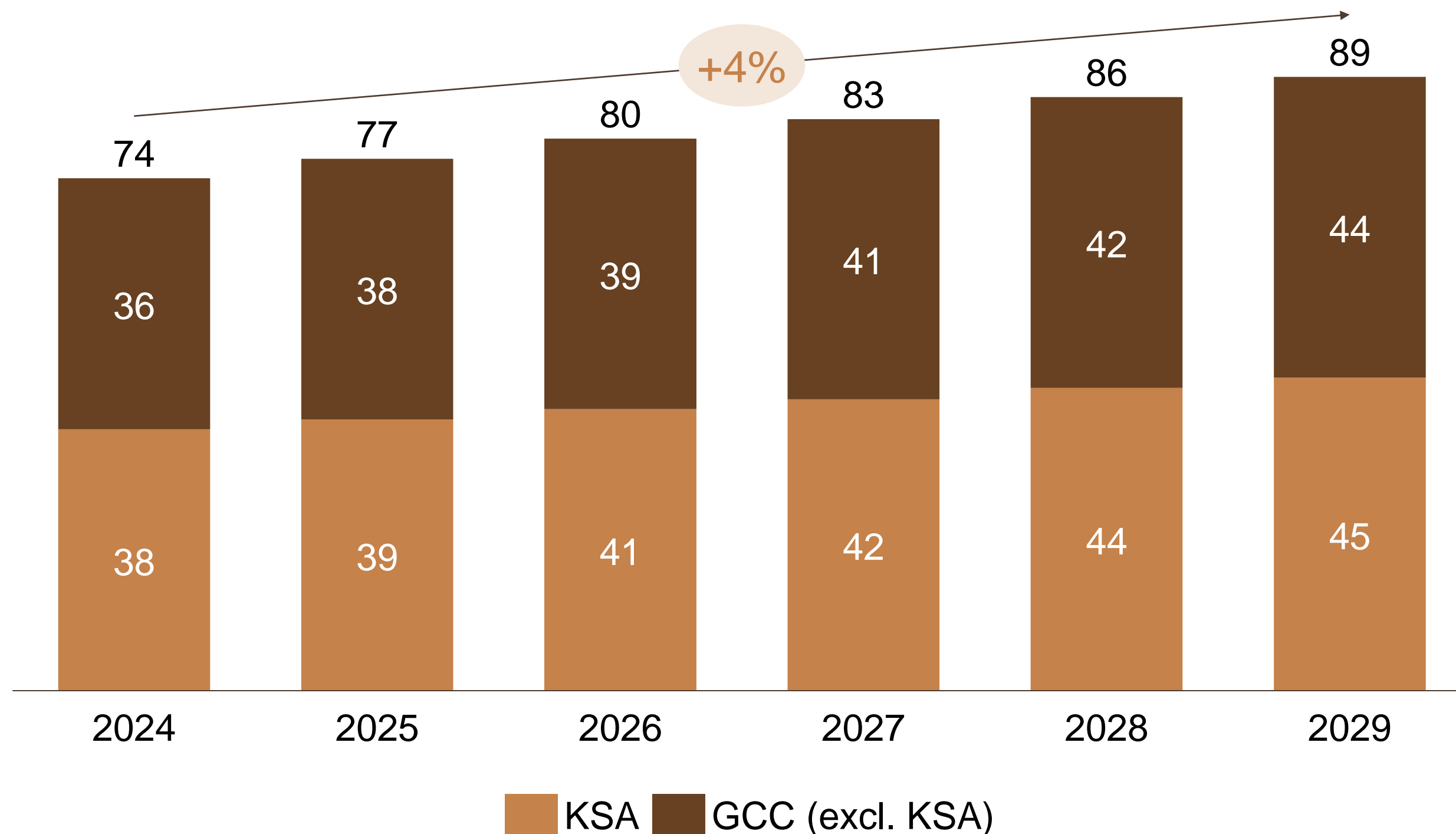


- Quickly seal leaks in pipes, preventing fluid loss and environmental damage

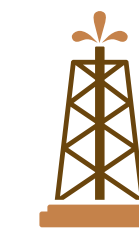
### Applications

# Clamps demand, customers, and drivers

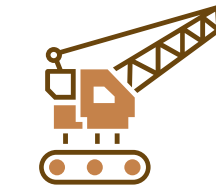
Forecasted KSA and rest of GCC clamps market 2024-2029 (\$MM)



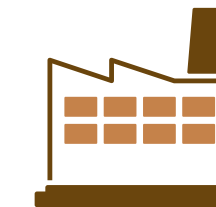
## Typical clamps customers in KSA



Oil & gas sector



Construction companies



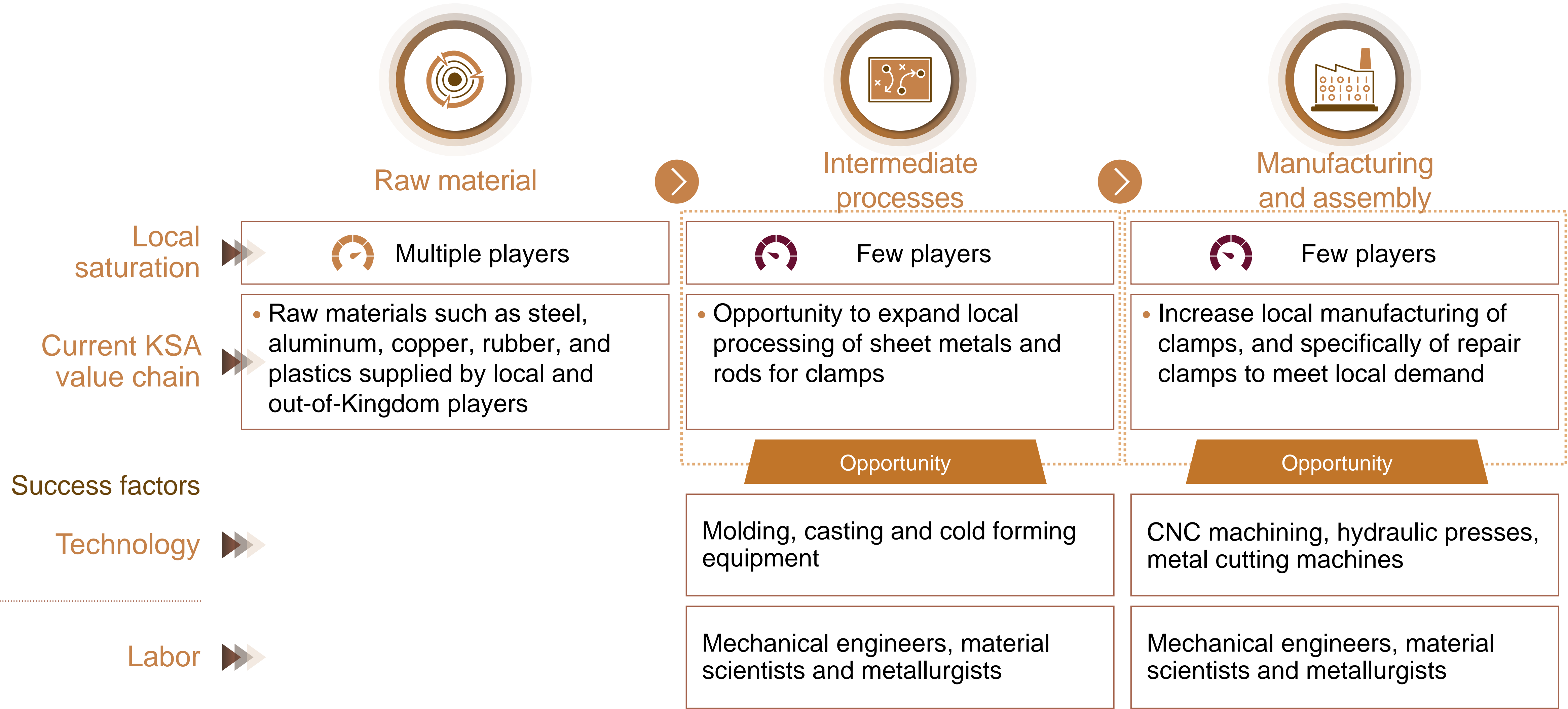
Utility providers

## Key KSA demand drivers

- **Energy sector growth:** KSA requires clamps for the new installation and maintenance of its extensive oil and gas pipeline networks
- **Infrastructure development:** Construction sector grows at a CAGR of 7.3% until 2032, fueling the need for clamps for building HVACs and plumbing

Catalyzing Supply Chains

# Value chain and key localization opportunities



**Catalyzing Supply Chains**

Note: Lifecycle management not applicable as clamps are not maintained or repaired but replaced with new clamps; CNC = Computer Numerical Control  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Subsidies and financial programs:** Access to CAPEX financing programs from SIDF, e.g. Kafalah to establish factories and purchase installation and maintenance equipment



**Land and infrastructure:** Subsidized land and infrastructure in economic zones such as those provided by MODON reduces setup costs



**Customs enablers:** Customs duty exemption from MoCI on machinery and equipment for establishment of clamp producers

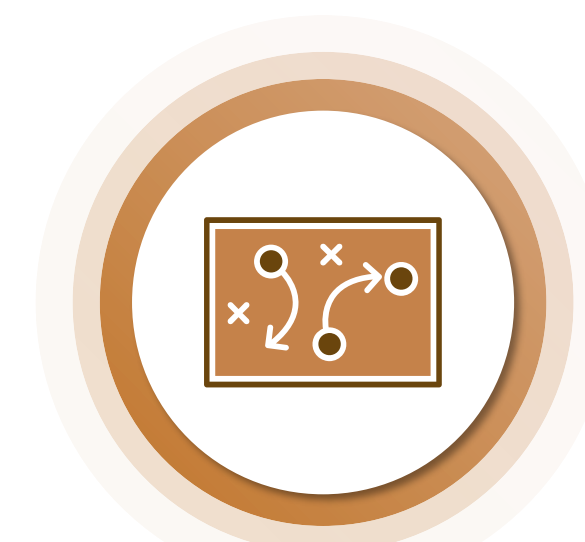


**Regulatory streamlining:** MISA's one-stop services provide fast-track licensing, guidance, and an online portal for simplified approvals

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup; Note: SIDF = Saudi Industrial Development Fund; MODON = Saudi Authority for Industrial Cities and Technology Zones; MoCI = Ministry of Commerce and Industry; MISA = Ministry of Investment Saudi Arabia  
 Source: Team analysis

## Where is the opportunity



Intermediate processes

Opportunity to expand local processing of sheet metals and rods for clamps



Manufacturing

Increase local manufacturing of clamps, and specifically of repair clamps to meet local demand

## Pipe Coatings

*Mohammed Alotaibi*

# Opportunity profile—pipe coatings

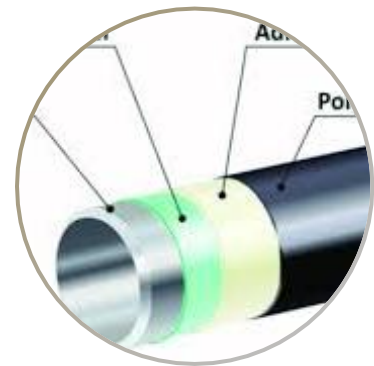
1

KSA requires pipe coatings to realize its ongoing oil and gas expansion

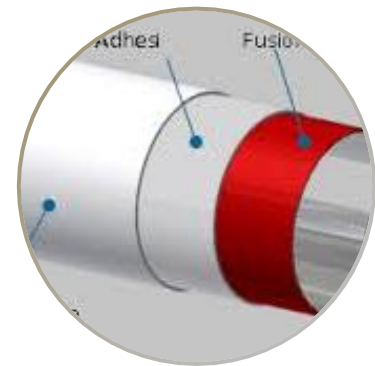
### Types



Fusion bonded epoxy



Polyethylene

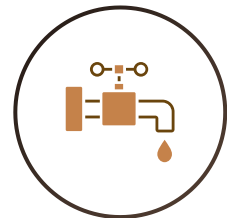


Polypropylene

### Applications



Offshore pipelines



Water and wastewater



Petrochemical

### Example

Marjan Oil Field

NEOM

Sadara

Catalyzing Supply Chains

2

The pipe coatings market is sizeable and growing at a steady rate

115

Estimated 2024 KSA market size. \$MM

5%

Forecasted 5-year CAGR

3

Attractive investment opportunities for the pipe coatings value chain

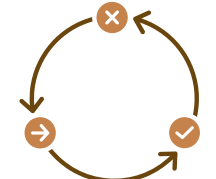
### KSA value chain opportunities



Pre-service sourcing



Service delivery



Lifecycle management

### KSA enablers

- Custom duty exemption on machinery
- Tax credits on R&D investments
- Technical consultation and support

# Potential pipe coatings localized categories

Non-exhaustive

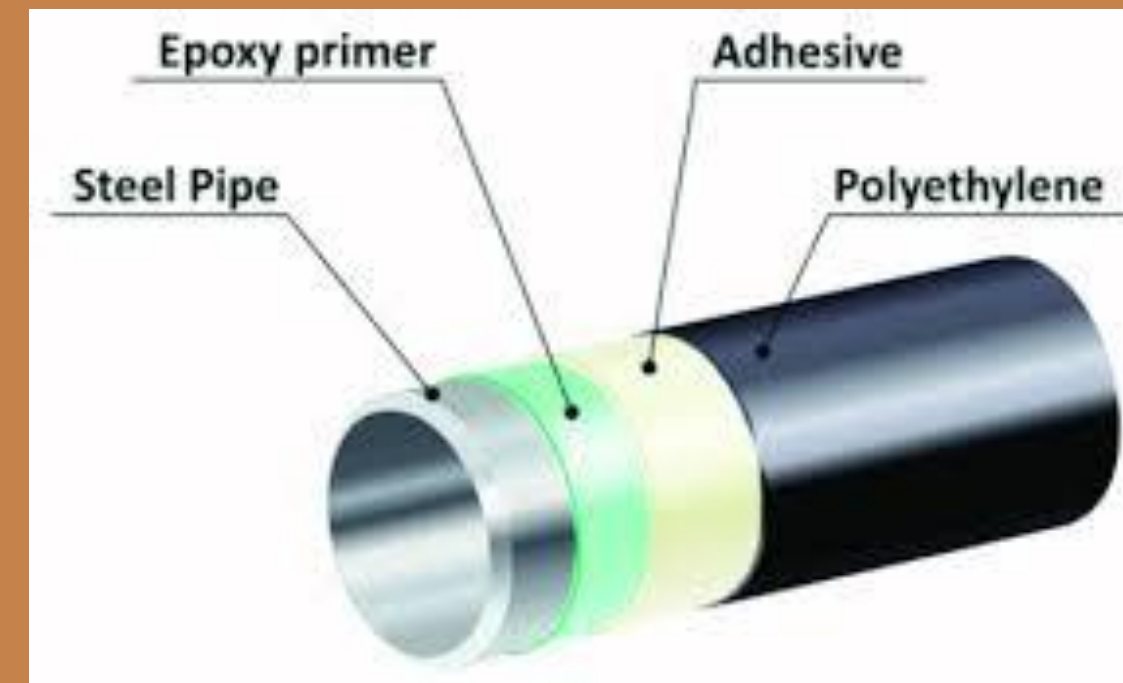
## FBE coating



### Applications

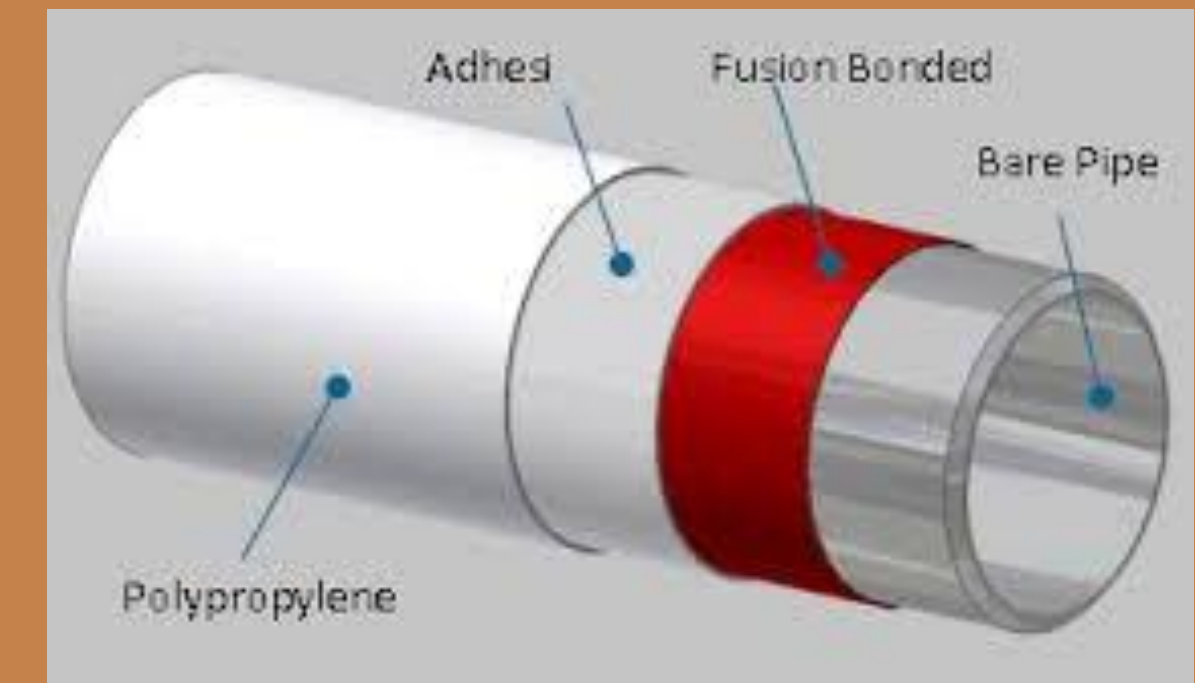
- Onshore and offshore
- High-temperature
- Water/wastewater
- Irregular shape coatings

## Polyethylene coating



- Buried or submerged
- Long-distance transmission
- Mechanical stress zones

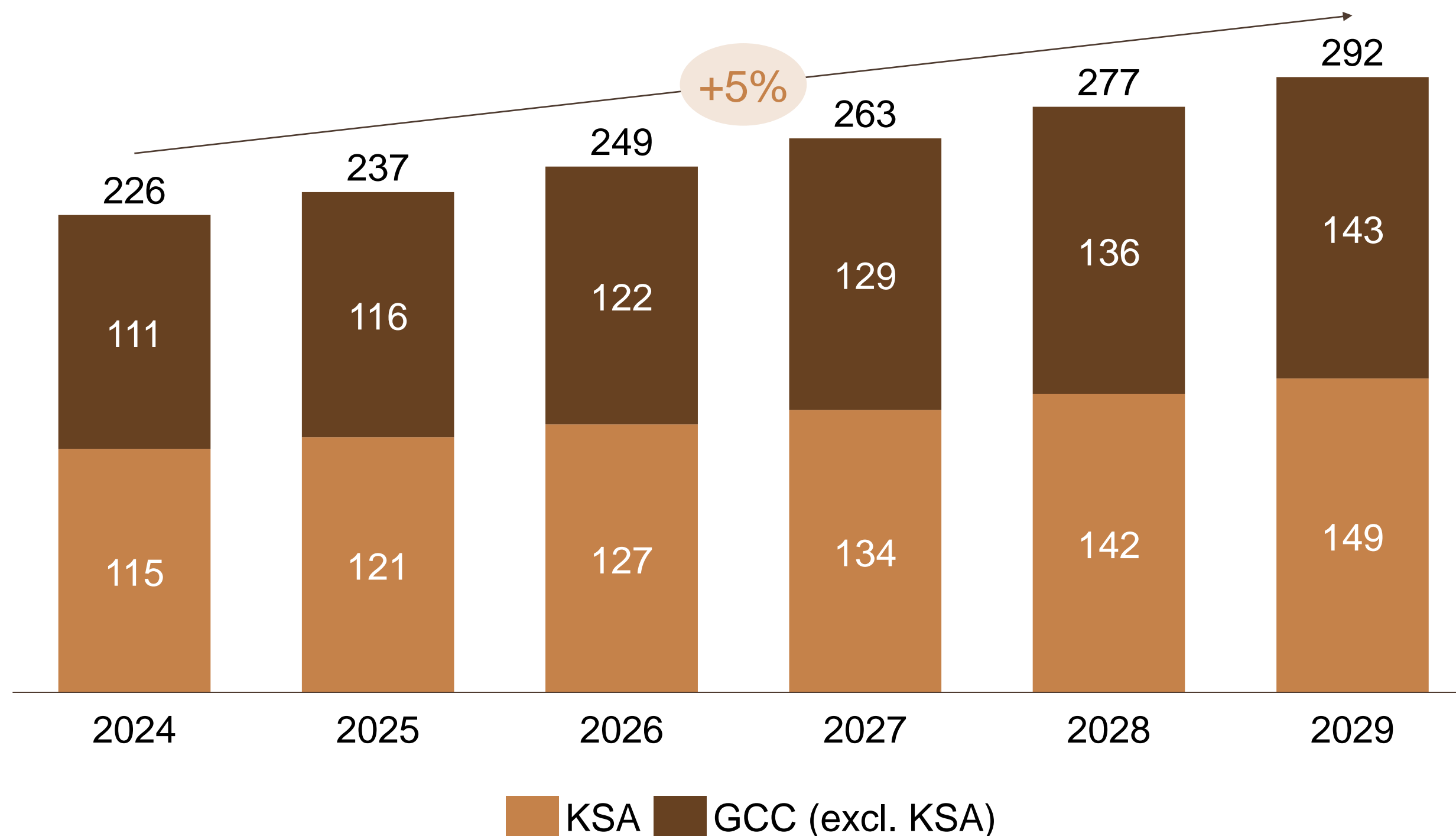
## Polypropylene coating



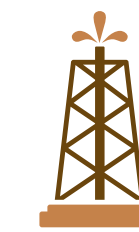
- High-temperature
- Subsea
- High-wear applications

# Pipe coatings demand, customers, and drivers

Forecasted KSA and rest of GCC pipe coatings market 2024-2029 (\$MM)



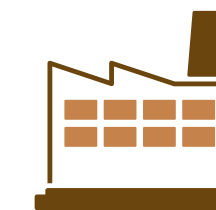
## Typical pipe coatings customers in KSA



Oil & gas sector



Petrochemical companies



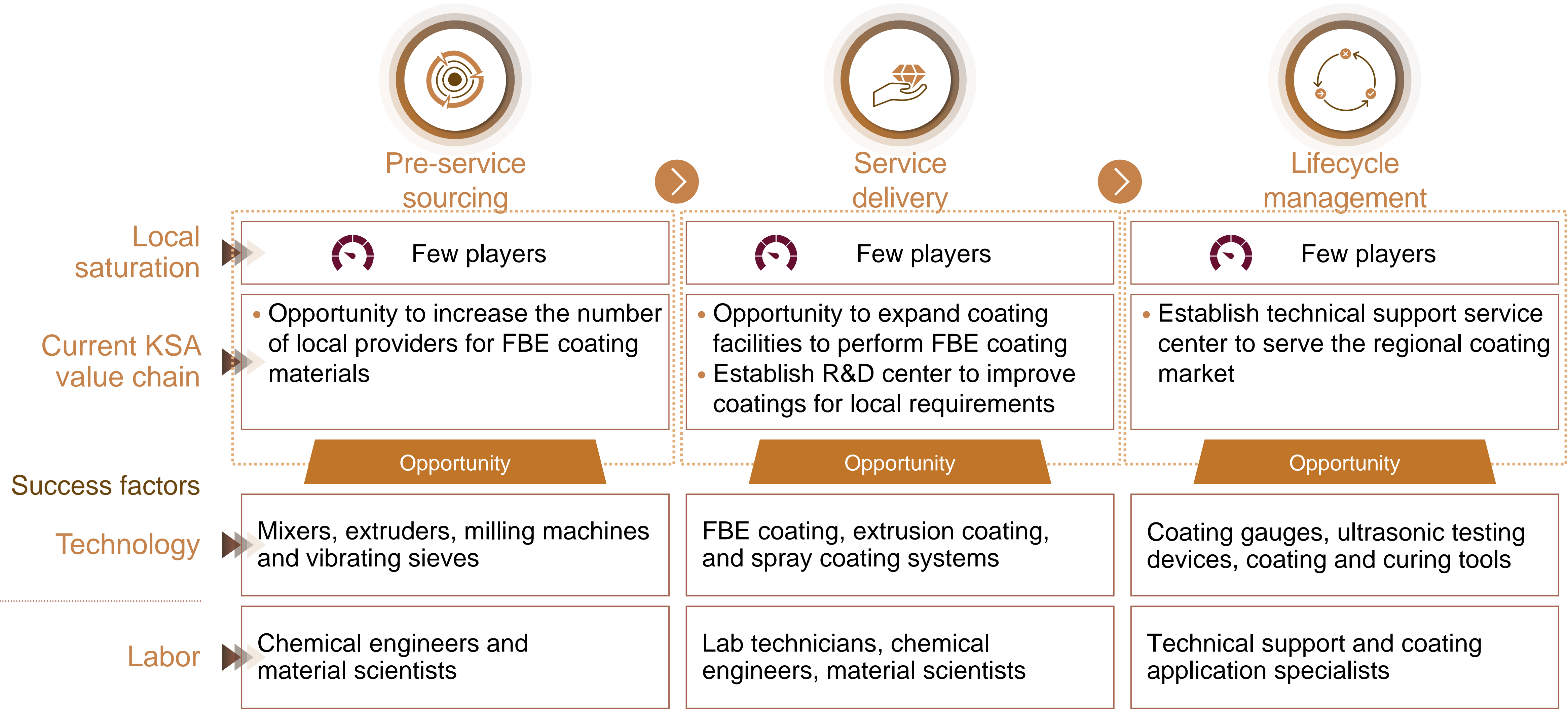
Utility providers

## Key KSA demand drivers

- **Sector growth:** KSA energy sector boosts demand for static and rotating as it remains core driver for economic growth
- **Industry trends:** Coatings demand expected to grow due to their crucial role in upcoming KSA water system expansions such as water transmission lines and desalination plants

Catalyzing Supply Chains

# Value chain and key localization opportunities



**Catalyzing Supply Chains**

Note: No intermediate processes as raw materials are directly processed to coatings; FBE = Fusion bonded epoxy  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Customs enablers:** Custom duty exemption from MoCI on machinery and equipment for expansion of local pipe coating capabilities



**Corporate tax reduction:** Tax credits on R&D investments to encourage local innovation capabilities for specialized production



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



**Quality assurance:** Specialized trainings for Saudi nationals by SPSP on oilfield chemical standards used in KSA

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup

Note: MoCI = Ministry of Commerce and Industry; KACST = King Abdulaziz City for Science & Technology; SPSP = Saudi Petroleum Services Polytechnic

Source: Team analysis

## Where is the opportunity



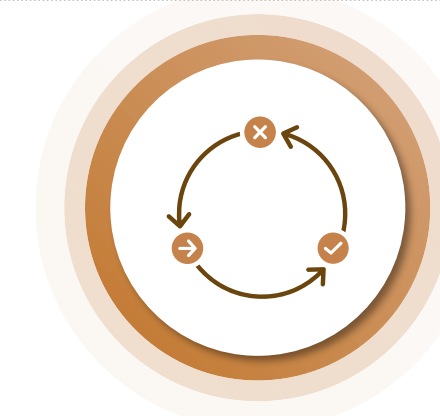
Raw materials

Opportunity to increase the number of local providers for FBE coating materials



Service delivery

Opportunity to expand coating facilities to perform FBE coatings, and to establish R&D center to improve coatings for regional needs



Lifecycle management

Establish technical support service center to serve the regional coating market

## Diesel Engines

*Mohammed Alotaibi*

# Opportunity profile—diesel engines

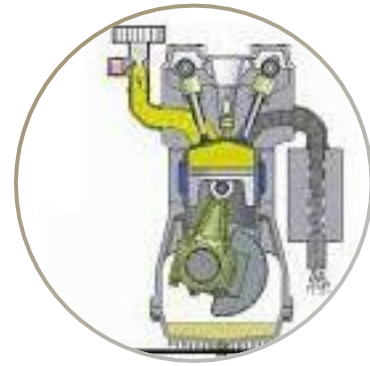
1

KSA requires diesel engines mainly for energy and construction sectors

### Types

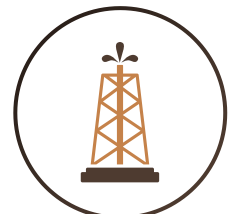


Two-stroke diesel engines

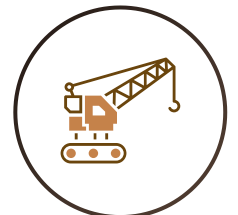


Four-stroke diesel engines

### Applications



Oil and gas



Construction



Automotive

### Example

Emergency systems

Heavy machinery

SNAM

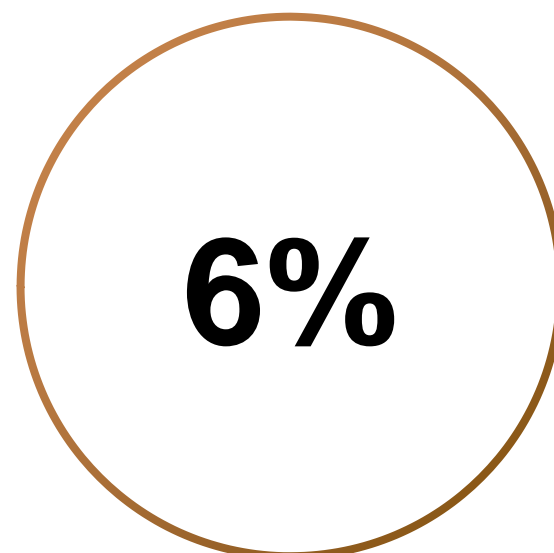
Catalyzing Supply Chains

2

The GCC diesel engines market experiences a moderate increase



Estimated 2024 KSA market size. \$MM



Forecasted 5-year CAGR

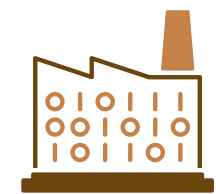
3

Attractive investment opportunities for the diesel engines value chain

### KSA value chain opportunities



Intermediate processes



Manufacturing

### KSA enablers

- Regional land and loan programs
- Technical and commercial consultation
- Custom duty exemption on machinery

Note: SNAM = Saudi National Automotive Manufacturing Company  
 Source: Perry Hope Partners; Team analysis

# Potential diesel engines localized categories

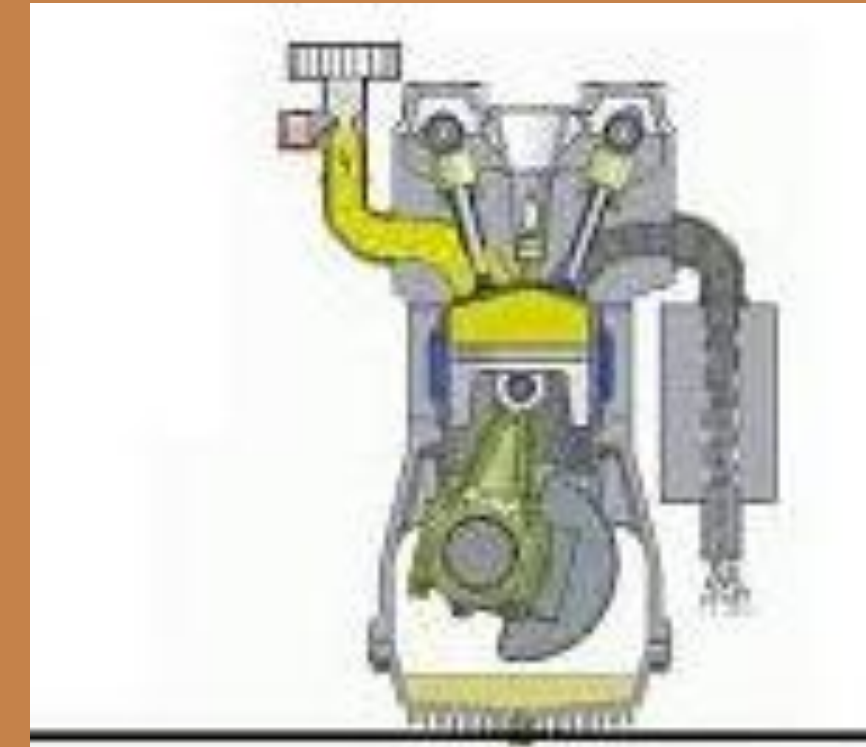
Non-exhaustive

## Two-stroke diesel engines



- Larger engines for industrial and marine use
- Ability to produce massive power

## Four-stroke diesel engines

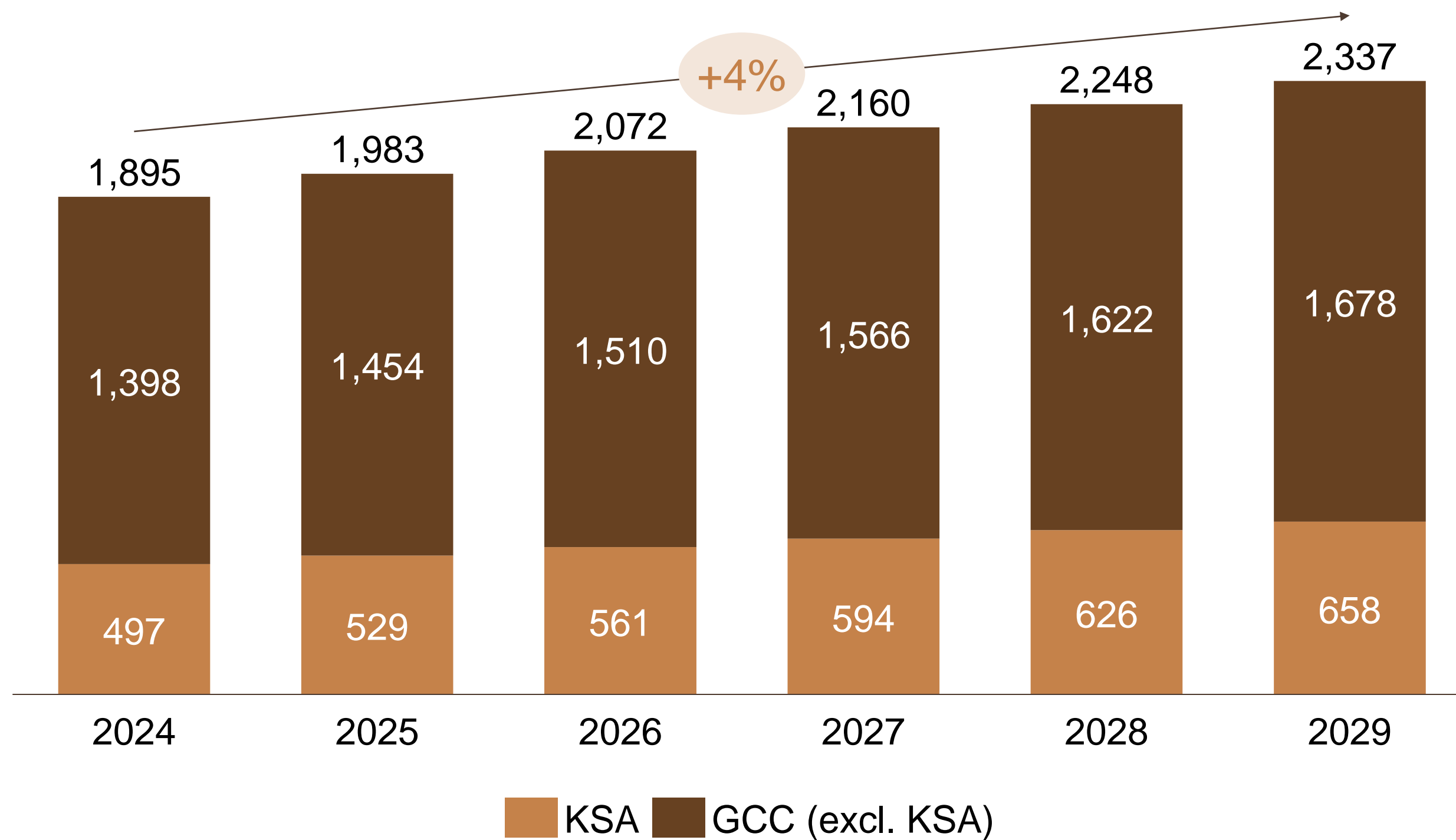


- Compact designs for smaller vehicles and equipment, such as power generators and machinery
- Ability to operate more efficient

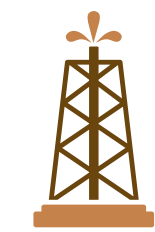
### Applications

# Diesel engines demand, customers, and drivers

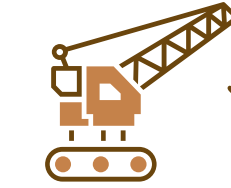
Forecasted KSA and rest of GCC diesel engine market 2024-2029 (\$MM)



## Typical diesel engine customers in KSA



Oil & gas sector



Construction companies

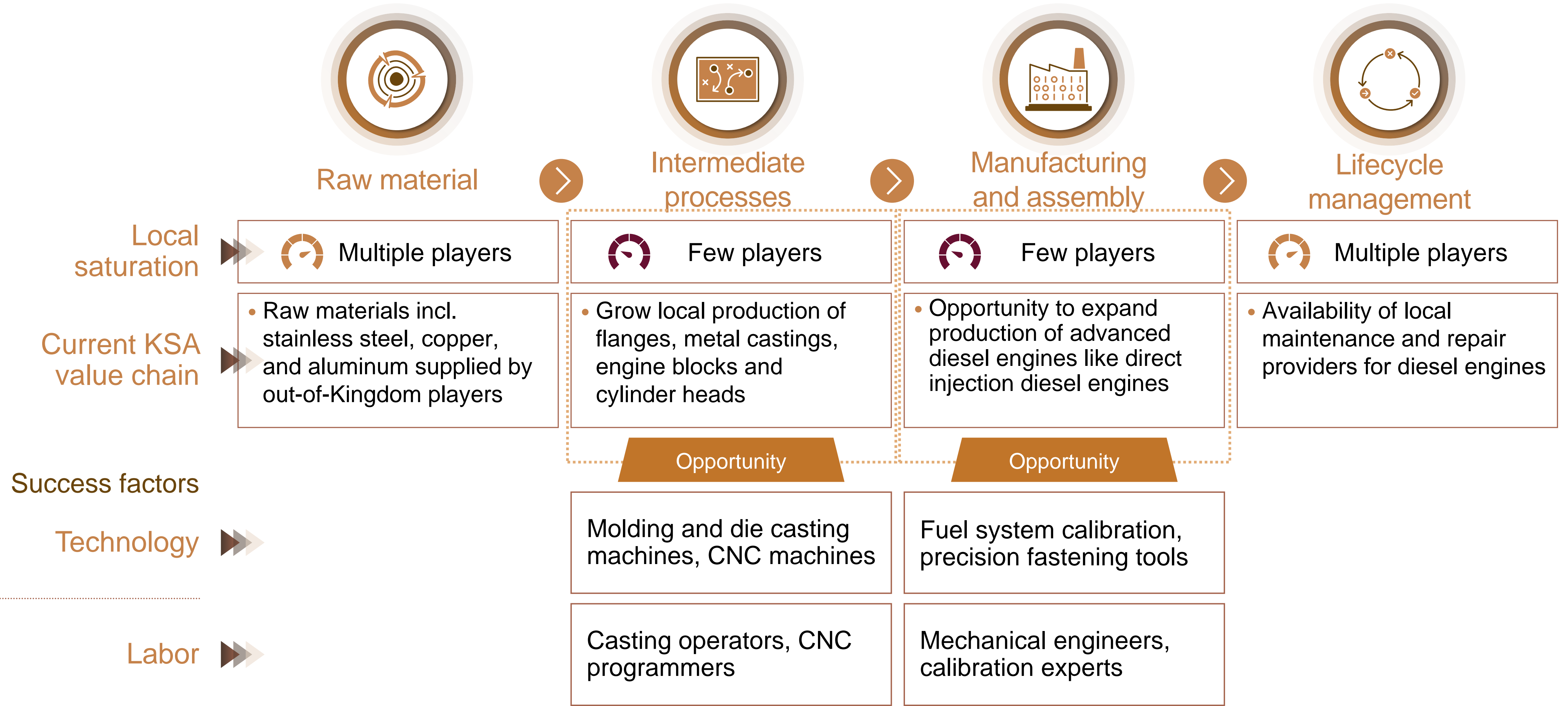


Vehicle manufacturers

## Key KSA demand drivers

- **Sector growth:** Energy investments remain driving engine for KSA economic growth, boosting the demand for diesel engines
- **Industry trends:** Construction sector grows at CAGR of 7.3% until 2032, driving the need for diesel engine-powered heavy machinery

# Value chain and key localization opportunities



Note: Lifecycle management including all post-production services, including installation; CNC = Computer Numerical Control  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Financial incentives:** SIDF offers working capital loans in the initial phase and benefits for SMEs under Afaq program for plant setup



**Infrastructure programs:** Subsidized land lease options by MODON for manufacturing in designated zones like Jubail Industrial City



**Customs enablers:** Custom duty exemption from MoCI on machinery and equipment for establishment of local component producers

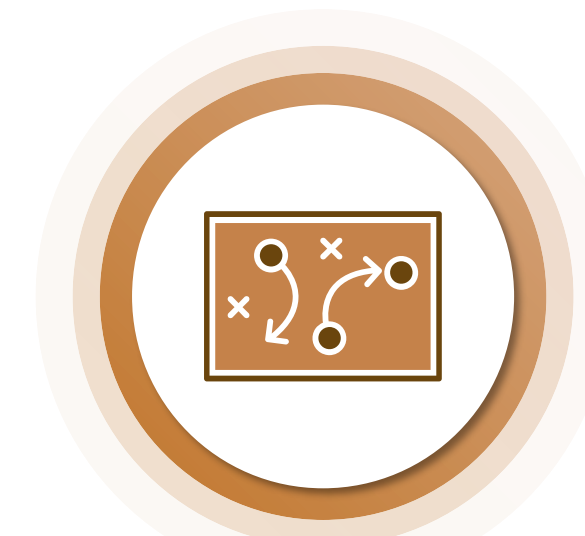


**Technical enablers:** Advanced support from KACST on technical guidance and setup for intermediate processes and manufacturing

### Catalyzing Supply Chains

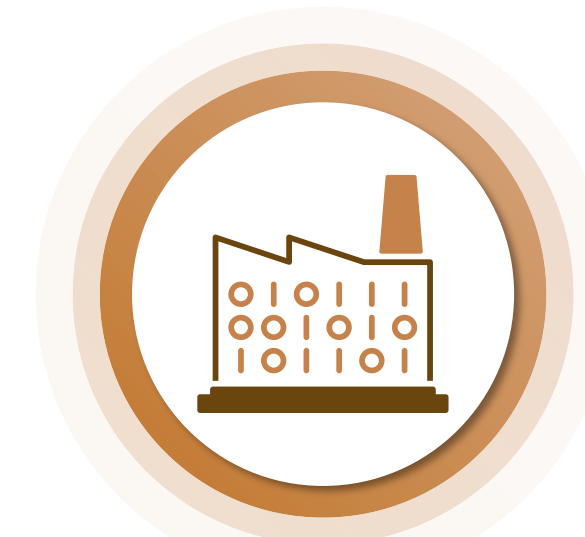
1. Detailed list of all enablers in the backup; Note: SIDF = Saudi Industrial Development Fund; KACST = King Abdulaziz City for Science & Technology; MODON = Saudi Authority for Industrial Cities and Technology Zones; MoCI = Ministry of Commerce and Industry  
 Source: Team analysis

## Where is the opportunity



Intermediate processes

Grow the local production of flanges, metal castings, engine blocks, and cylinder heads



Manufacturing

Opportunity to expand production of advanced diesel engines such as direct injection diesel engines

## Vessel Internals

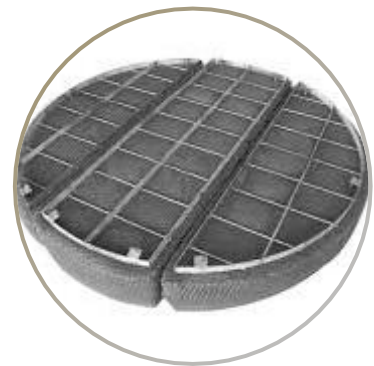
*Mohammed Alotaibi*

# Opportunity profile—vessel internals

1

KSA requires vessel internals to realize its oil and gas expansion

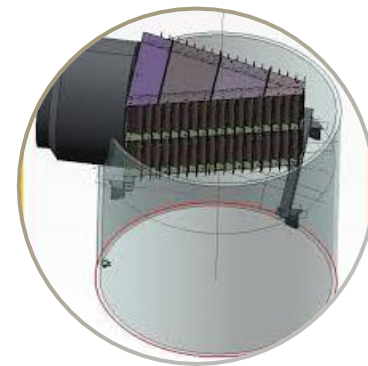
### Types



Separation

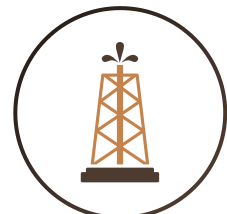


Reaction and mixing



Flow control

### Applications



Oil and gas



Petrochemical



Water treatment

### Example

GOSPs

Sadara

Filtration units

Catalyzing Supply Chains

Note: GOSP = Gas-oil separation plant  
 Source: Team analysis

2

Vessel internals market is sizable and growing at a steady rate

185

Estimated 2024 KSA market size. \$MM

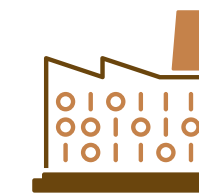
4%

Forecasted 5-year CAGR

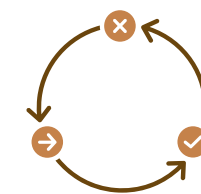
3

Attractive investment opportunities for the vessel internals value chain

### KSA value chain opportunities



Manufacturing



Lifecycle management

### KSA enablers

- CAPEX financing programs
- Tax exemptions on exports
- Subsidized workforce trainings

# Potential vessel internals localized categories

Non-exhaustive

## Separation internals



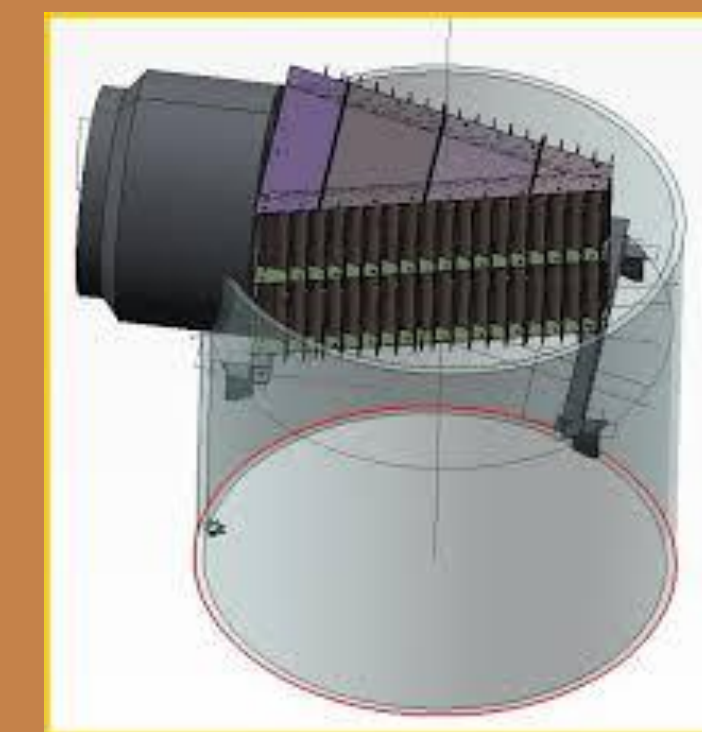
- Used for phase separation into gas, liquid, or solid
- Remove entrained liquid droplets from gas streams

## Reaction and mixing internals



- Control flow patterns and enhance turbulence
- Ensure even distribution of gases or liquid inside vessel

## Flow control internals

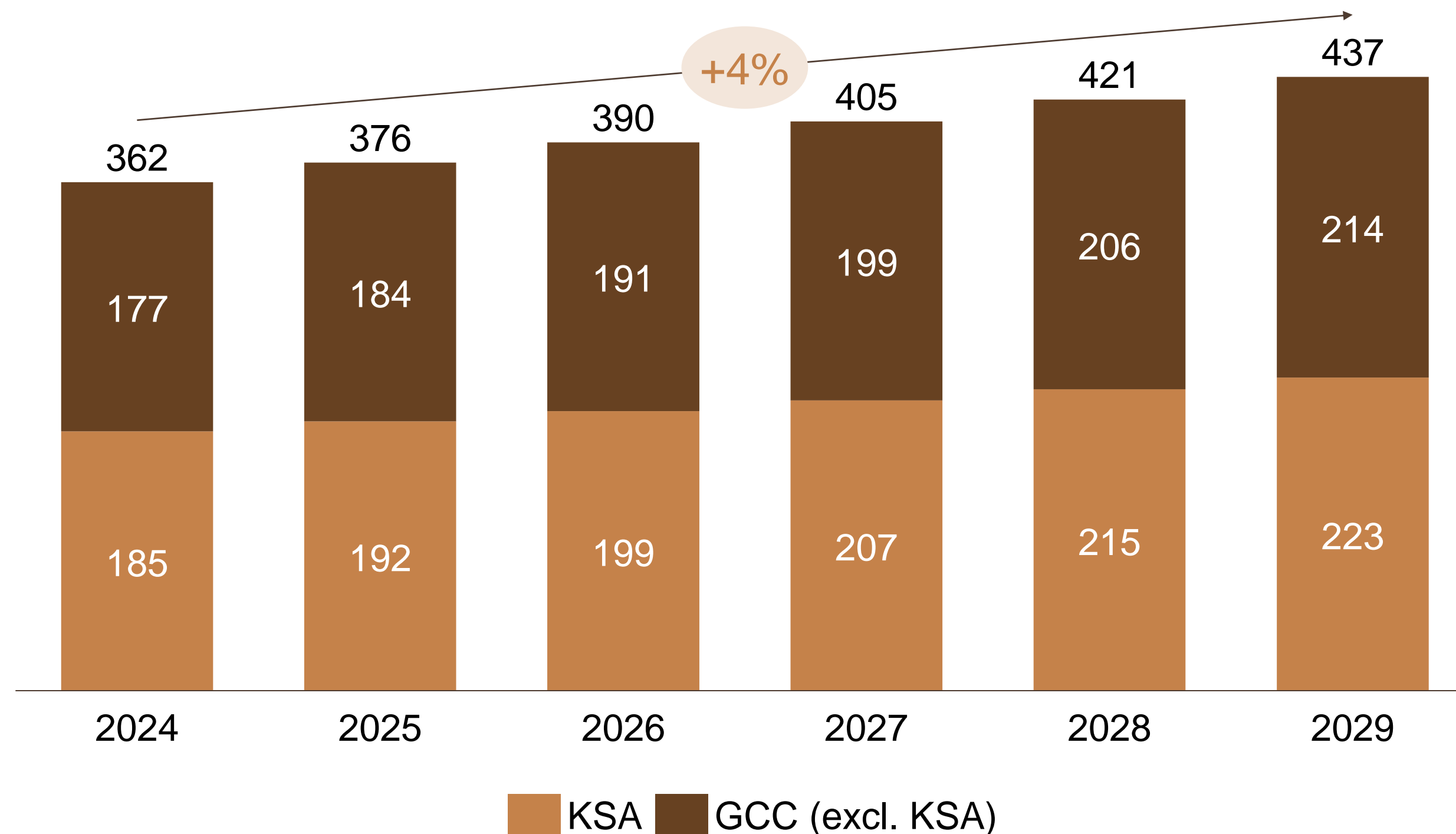


- Disperse incoming fluids to reduce turbulence
- Manage fluid dynamics to optimize operations

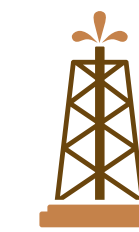
### Applications

# Vessel internals demand, customers, and drivers

Forecasted KSA and rest of GCC vessel internals market 2024-2029 (\$MM)



## Typical vessel internals customers in KSA



Oil & gas sector



Petrochemical companies



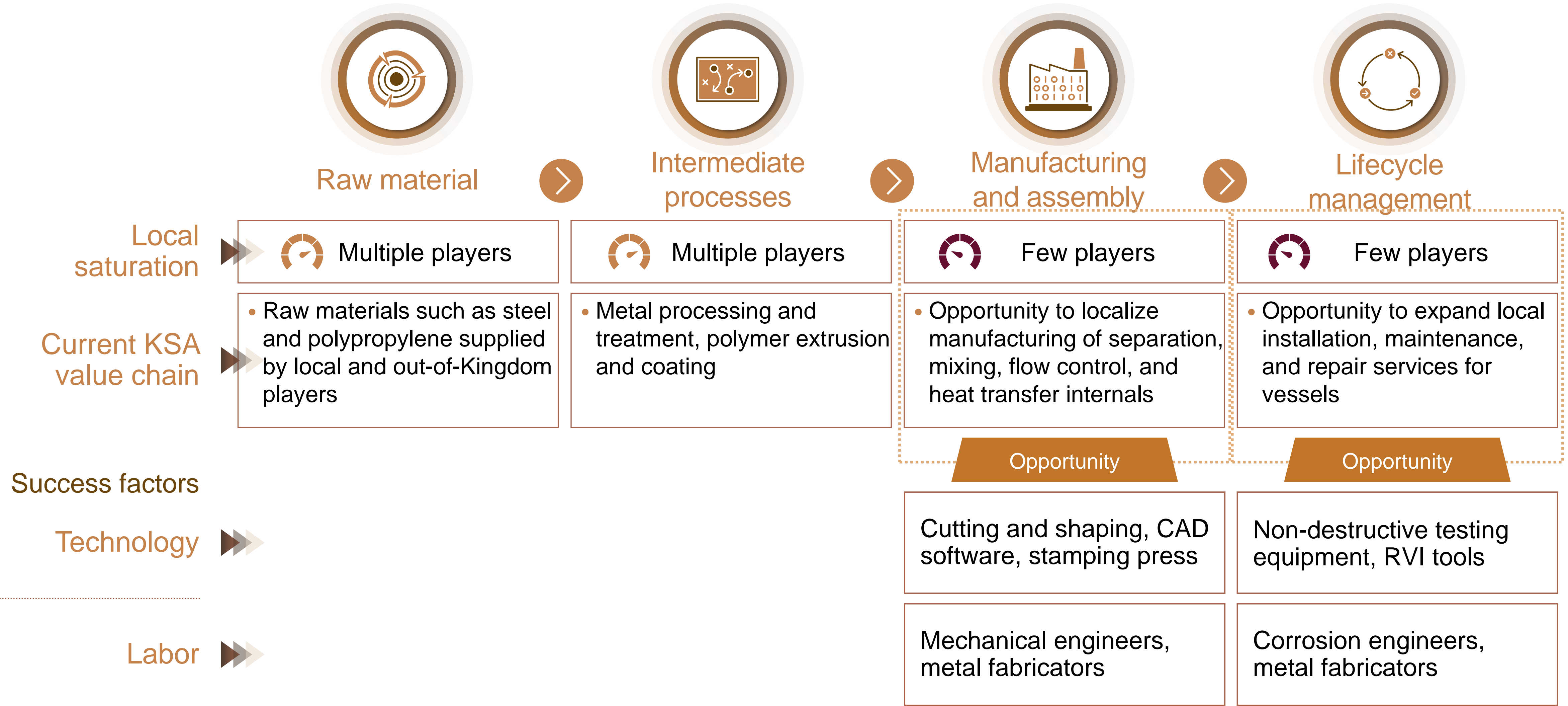
Utility providers

## Key KSA demand drivers

- **Sector growth:** KSA energy sector boosts demand for vessel internals as it remains core driver for economic growth
- **Technology advancements:** Digital twins and automation enhance operational efficiency, thereby driving the need for advanced vessel internals systems

Catalyzing Supply Chains

# Value chain and key localization opportunities



**Catalyzing Supply Chains**

Note: Lifecycle management including all post-production services, including installation; RVI = Remote visual inspection  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



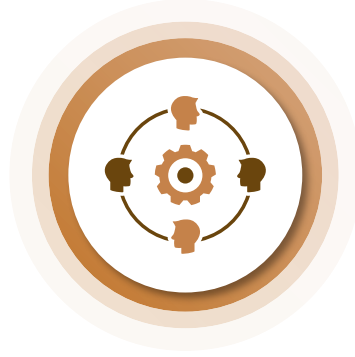
**Financial program:** Access to CAPEX financing programs from SIDF to purchase production equipment and machinery



**Corporate tax reduction:** Tax credits on R&D investments to encourage local innovation capabilities for specialized vessel internals



**Export enabler:** Tax exemptions by ZATCA on earnings and custom duty from export of vessel internals



**Workforce development:** Fully covered or subsidized training programs by HRDF and SEDA for production operations

### Catalyzing Supply Chains

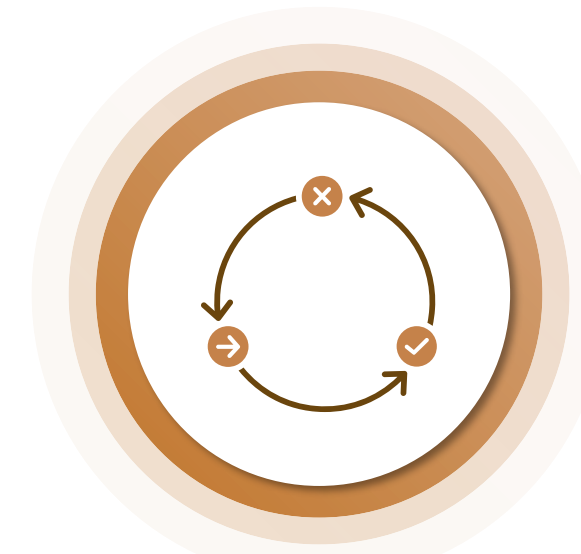
1. Detailed list of all enablers in the backup; Note: SIDF = Saudi Industrial Development Fund; ZATCA = Zakat, Tax, and Customs Authority; HRDF= Human Resource Development Fund; SEDA = Saudi Export Development Authority  
 Source: Team analysis

## Where is the opportunity



Manufacturing

Opportunity to localize manufacturing of separation, mixing, flow control, and heat transfer vessel internals



Lifecycle management

Opportunity to expand local installation, maintenance, and repair services for vessels

## Flare

*Khalid Alotaibi*

# Opportunity profile—flare

1

Flares are mainly needed to realize ongoing oil and gas expansion

### Types



Unassisted flares

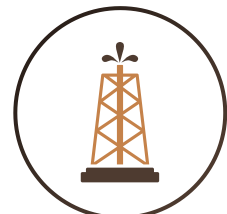


Smokeless flares



Ground/enclosed flares

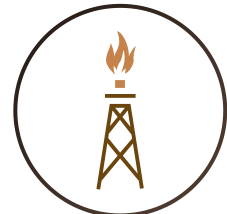
### Applications



Oil and gas extraction



Petrochemical waste gas



Natural gas processing

### Example

Marjan Oil Field

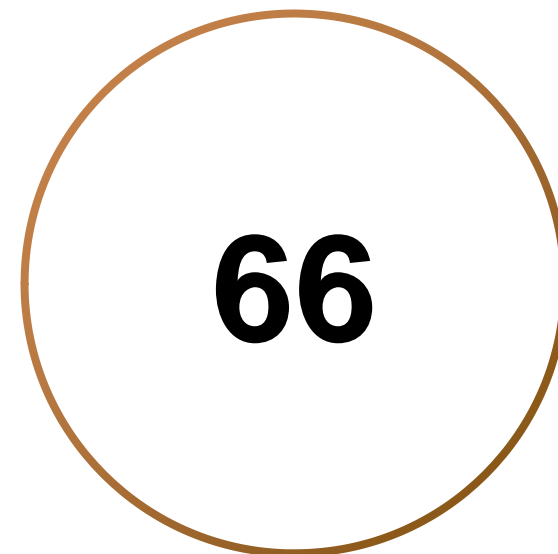
Amiral Complex

Fadhili Gas Plant

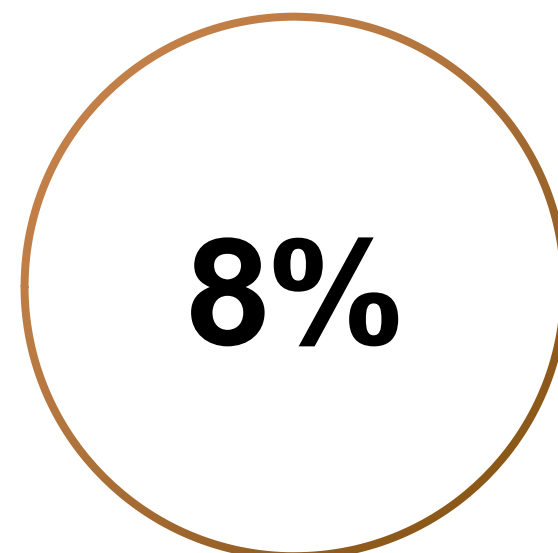
Catalyzing Supply Chains

2

The flare market experiences a substantial increase in KSA and GCC



Estimated 2024 KSA market size. \$MM

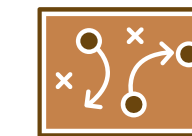


Forecasted 5-year CAGR

3

Attractive investment opportunities for the flare value chain

### KSA value chain opportunities



Intermediate processes

### KSA enablers

- Land and infrastructure subsidies
- Local market trends advice
- Specialized training programs

# Potential flare localized categories

Non-exhaustive

## Unassisted flares



- Used in uncomplex setups
- Smokeless burning achieved without external steam, air or pressure assistance

## Smokeless flares



- Used in high-flow situations
- Minimize visible smoke
- Use assist systems (e.g., air or steam injection)

## Ground/enclosed flares

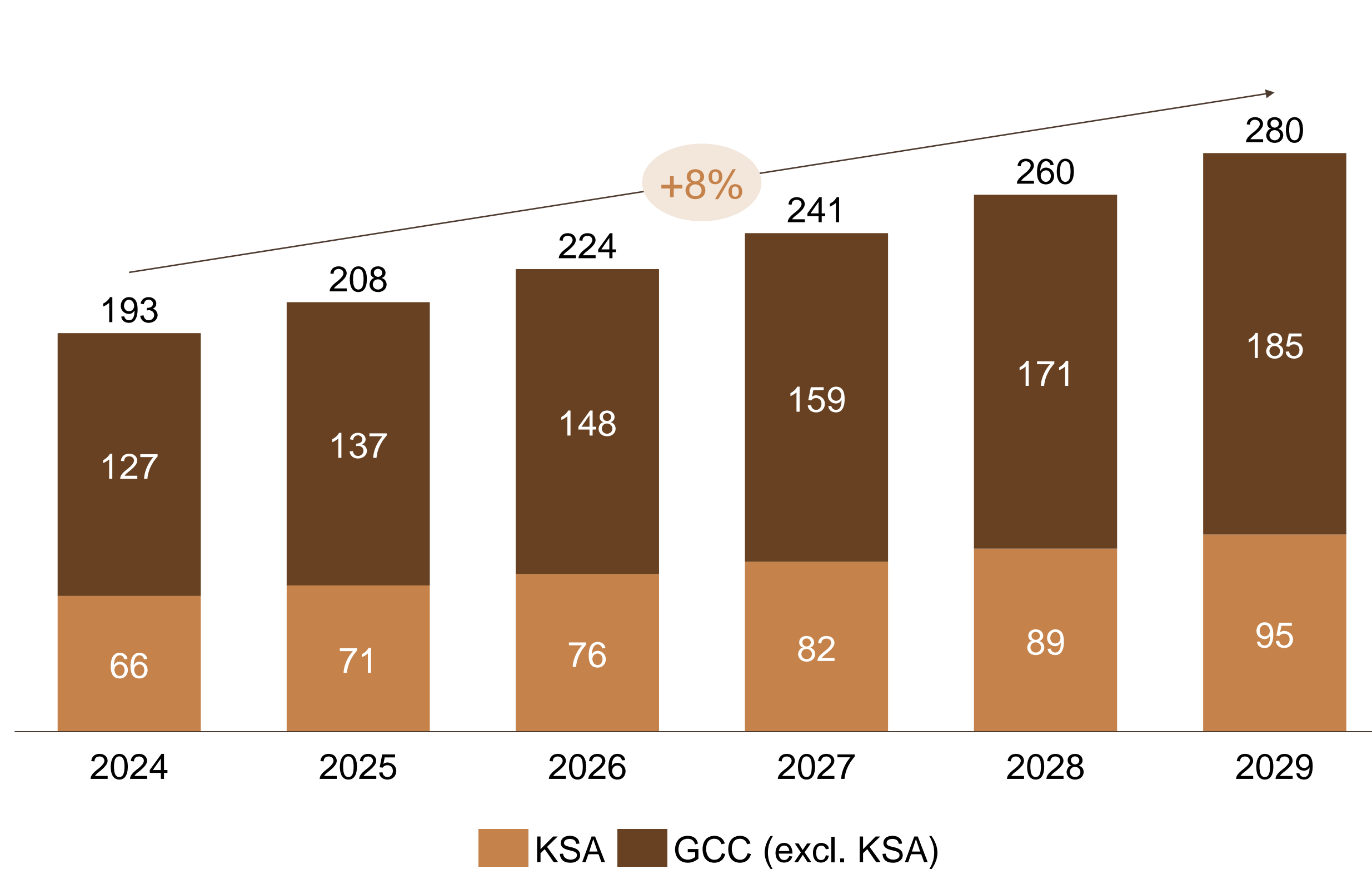


- Used in crowded plant area near other equipment
- Combustion inside chamber
- Use assist systems

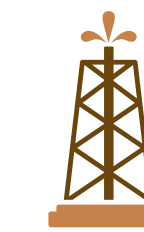
### Applications

# Flare demand, customers, and drivers

Forecasted KSA and rest of GCC flare market 2024-2029 (\$MM)



## Typical flare customers in KSA



Oil & gas extraction



Refineries

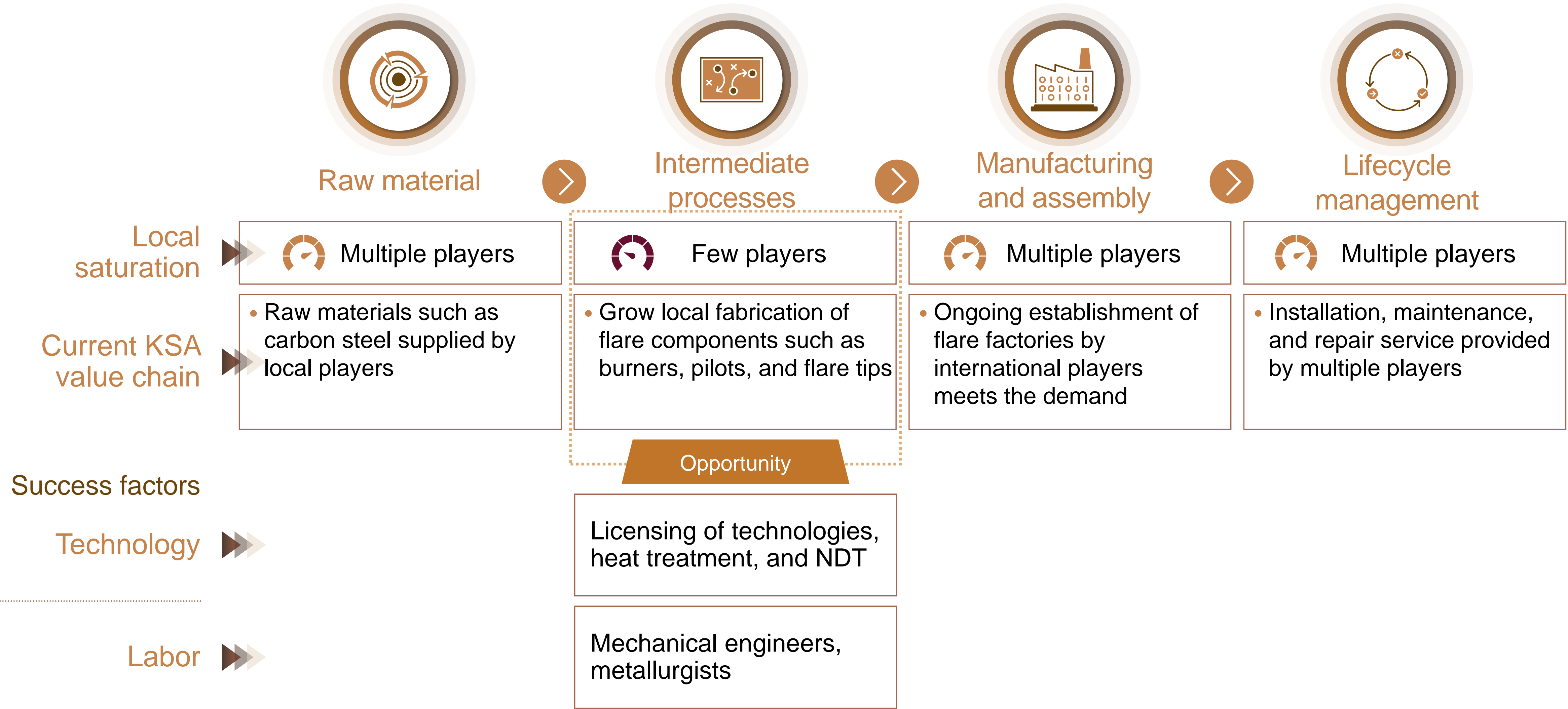


Petrochemical plants

## Key KSA demand drivers

- **Sector growth:** Increasing exploration of oil and gas fields in KSA requires flares for the combustion of excess hydrocarbons
- **Environmental regulations:** Saudi Aramco pledge to achieve net zero Scope 1&2 GHG emissions drives demand for efficient flare installations such as enclosed flare systems

# Value chain and key localization opportunities



**Catalyzing Supply Chains**

Note: Lifecycle management including all post-production services, including installation; NDT = Non-destructive testing  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Technical enablers:** Advanced support from KACST on technical guidance and setup for intermediate processes



**Land and infrastructure:** Subsidized land and infrastructure in economic zones like those offered by MODON reduces costs



**Market analysis:** Consulting services provided by SABIC to navigate market trends and optimize component production



**Human capital enablers:** NITI can offer specialized courses on CNC precision machining and heat treatment technologies

## Where is the opportunity



Intermediate processes

Grow local fabrication of flare components such as burners, pilots, and flare tips

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup; Note: KACST = King Abdulaziz City for Science & Technology; MODON = Saudi Authority for Industrial Cities and Technology Zones; NITI = National Industrial Training Institute; CNC = Computer numerical control  
 Source: Team analysis

## Pipe Cladding

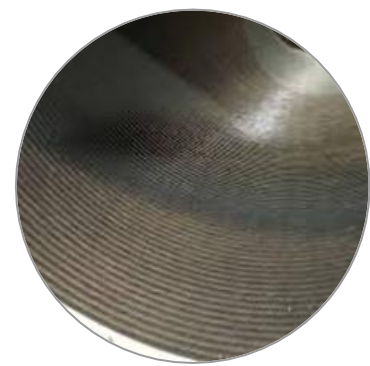
*Khalid Alotaibi*

# Opportunity profile—pipe cladding

1

KSA requires pipe cladding for its extensive pipeline networks

### Types



Weld overlay cladding

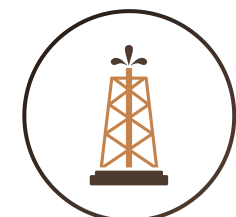


Explosion bonding



Roll bonding

### Applications



Oil and gas infrastructure



Petrochemical



Mining industry

### Example

Subsea pipelines

Chemical protection

Slurry transport

Catalyzing Supply Chains

2

Pipe cladding services are growing at a steady rate in KSA and GCC

37

Estimated 2024 KSA market size. \$MM

4%

Forecasted 5-year CAGR

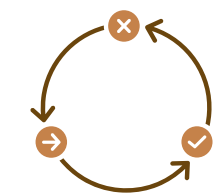
3

Attractive investment opportunities for the pipe cladding value chain

### KSA value chain opportunities



Service delivery



Lifecycle management

### KSA enablers

- CAPEX financing programs
- Streamlined visa process by MHRSD to facilitate skilled expat hiring
- Customs duty exemption by MoCI

# Potential pipe cladding localized categories

Non-exhaustive

## Weld overlay cladding



- CRA material welded onto base material, creating a strong metallurgical bond
- Used for chemical and oil pipes

## Explosion bonding



- Explosives are used to bond the CRA layer to the base metal under high pressure
- Used for large clad pipes

## Roll bonding



- CRA and base material are heated and passed via rollers to form composite structure
- Used for long, seamless pipes

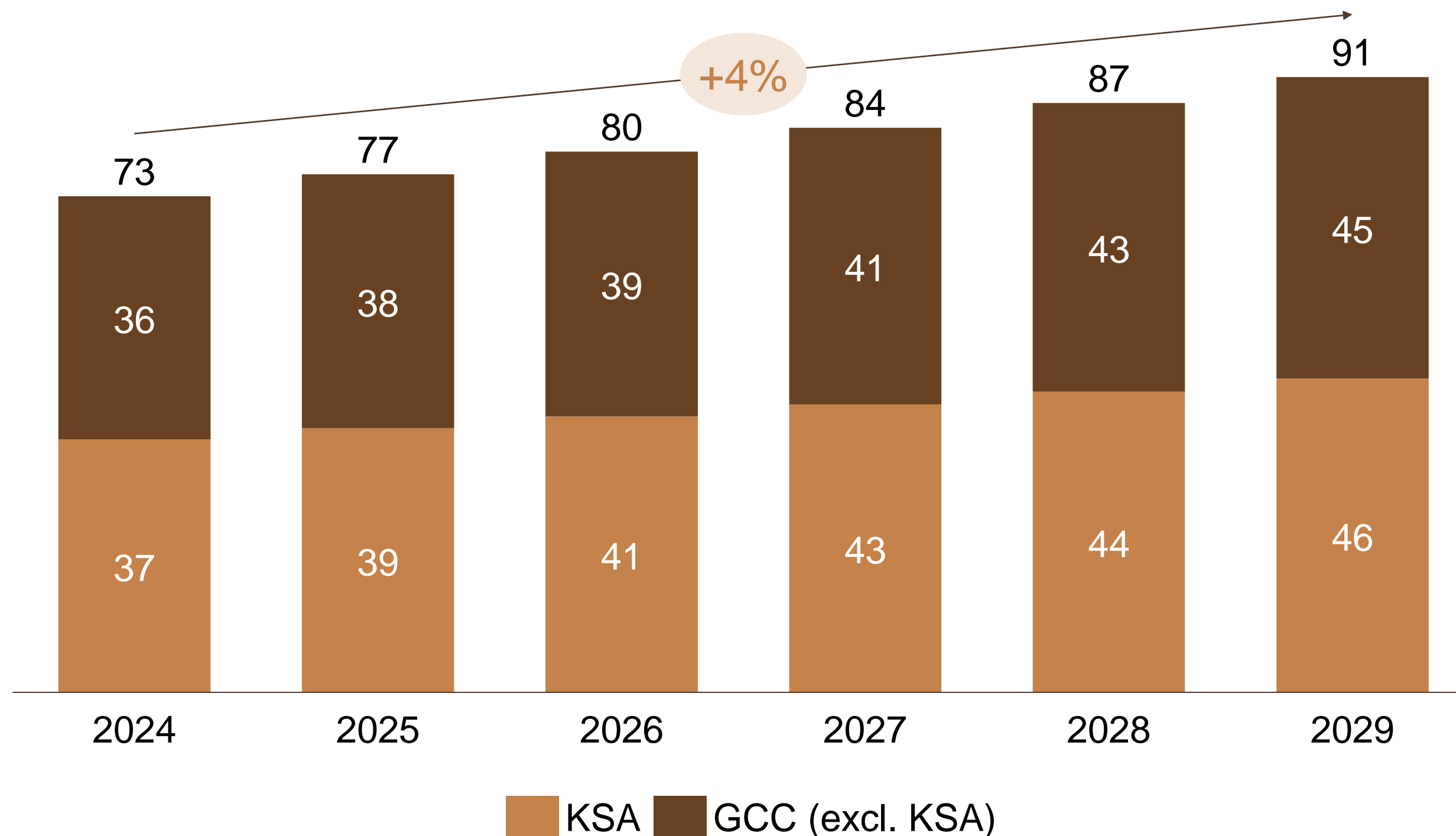
### Applications

### Catalyzing Supply Chains

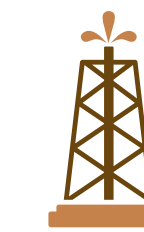
Note: CRA = Corrosion Resistant Alloy  
 Source: Team analysis

# Pipe cladding demand, customers, and drivers

Forecasted KSA and rest of GCC pipe cladding market 2024-2029 (\$MM)



## Typical pipe cladding customers in KSA



Oil & gas extraction



Mining industry



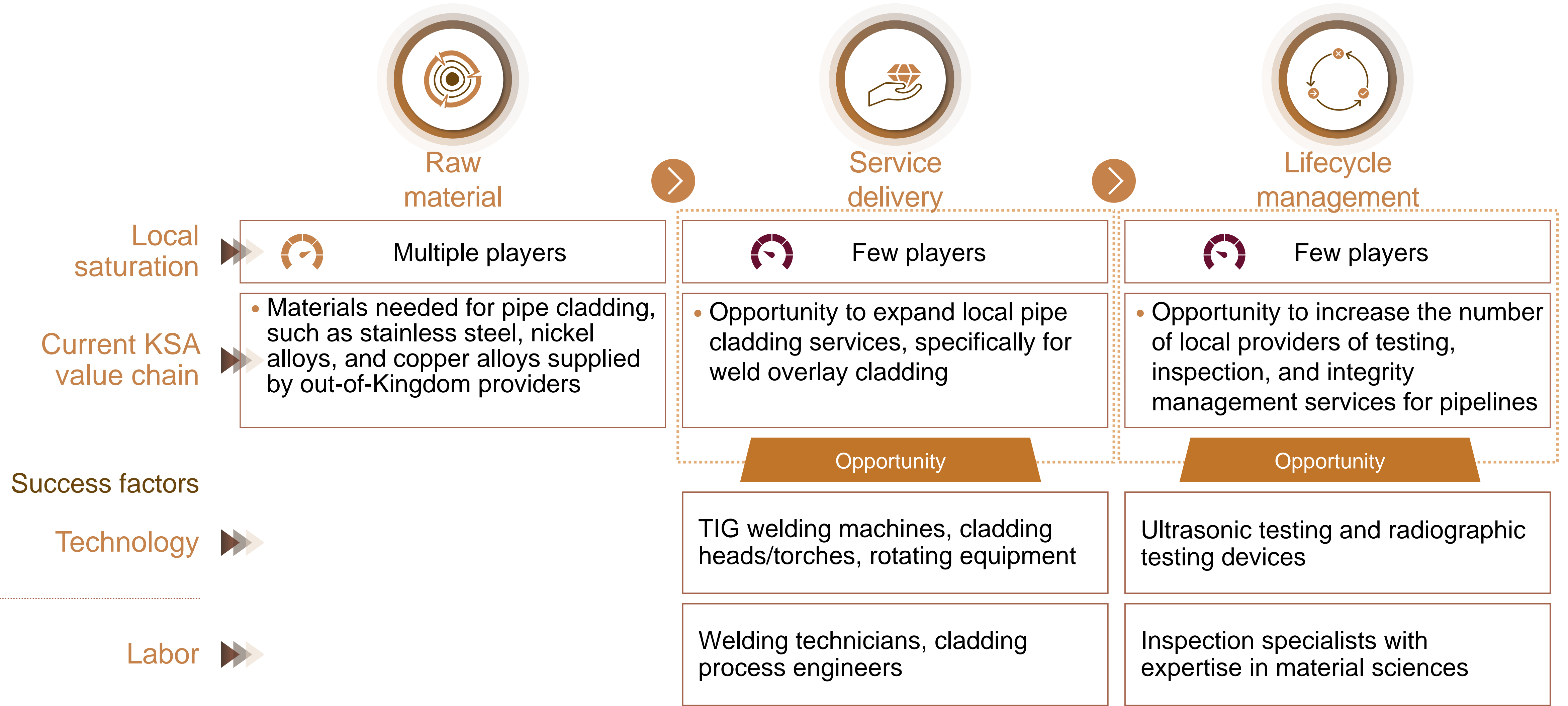
Infrastructure developers

## Key KSA demand drivers

- **Sector growth:** Energy investments remain the driving engine for KSA economic growth, boosting the demand for pipelines networks that require cladding
- **Infrastructure trends:** Initiatives like NEOM, the Red Sea Project, and Qiddiya involve large infrastructure, driving the need for cladded pipes in construction and utilities

Catalyzing Supply Chains

# Value chain and key localization opportunities



Static & Rotating Equipment Workshop

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Financial program:** Access to CAPEX financing programs from SIDF to purchase machinery and equipment for pipe cladding services



**Skilled visa processing:** MHRSD facilitates hiring expats with technical expertise on cladding via streamlined visa processes



**Customs enablers:** Custom duty exemption from MoCI on machinery and equipment for expansion of local pipe cladding services



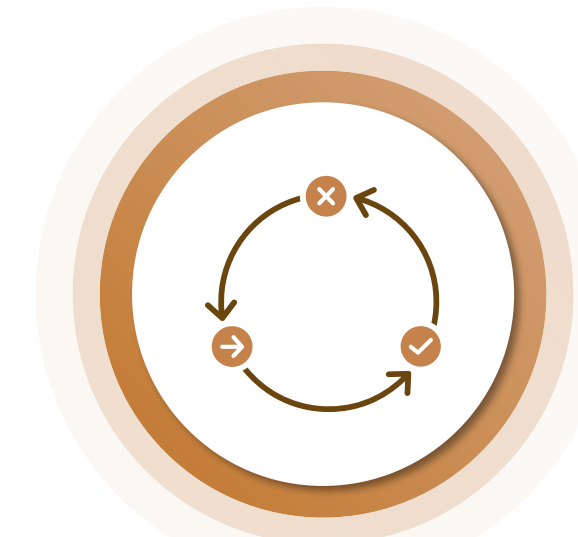
**Human capital enablers:** ITQAN Institute offering specialized training for pipeline and valve inspection and integrity management

## Where is the opportunity



Service  
delivery

Opportunity to expand local pipe cladding services, specifically for weld overlay cladding



Lifecycle  
management

Opportunity to increase the number of local providers of testing, inspection, and integrity management services for pipelines

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup; Note: SIDF = Saudi Industrial Development Fund; MHRSD = Ministry of Human Resources and Social Development; MoCI = Ministry of Commerce and Industry; ITQAN = Inspection Technology and Quality Assurance National Institute  
 Source: Team analysis

## Rotary Pumps

*Khalid Alotaibi*

# Opportunity profile—rotary pumps

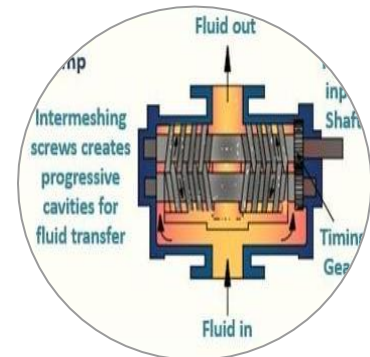
1

KSA needs rotary pumps for transport of liquids in its large pipeline network

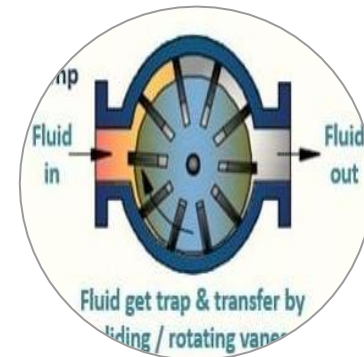
## Types



Gear pump

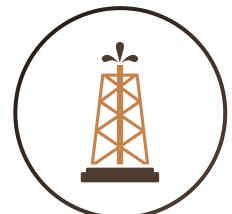


Screw pump



Vane pump

## Applications



Oil transfer



Petrochemical transport



Wastewater treatment

## Example

Aramco oil fields

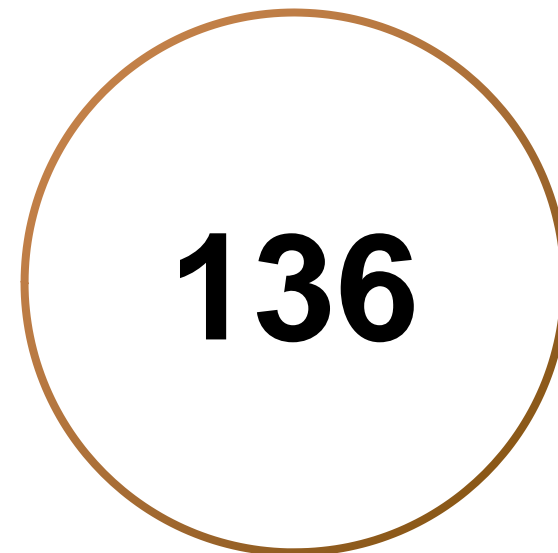
Sadana

ISTPs

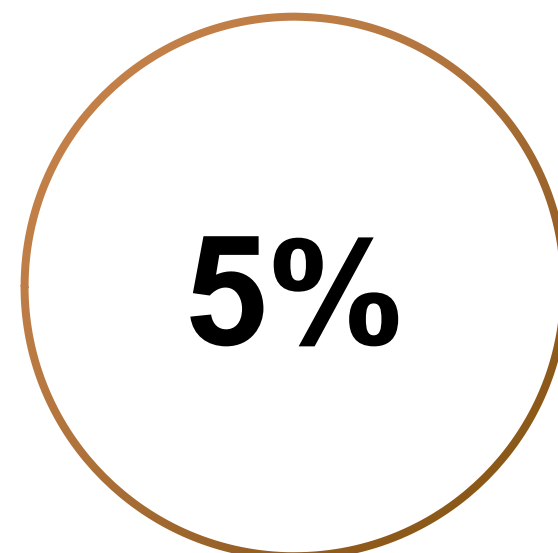
Catalyzing Supply Chains

2

The rotary pumps market experiences a steady increase in KSA and GCC



Estimated 2024 KSA market size. \$MM

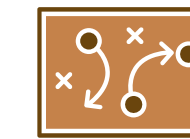


Forecasted 5-year CAGR

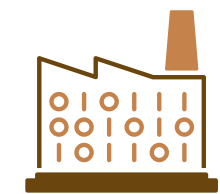
3

Attractive investment opportunities for the rotary pumps value chain

## KSA value chain opportunities



Intermediate processes



Manufacturing

## KSA enablers

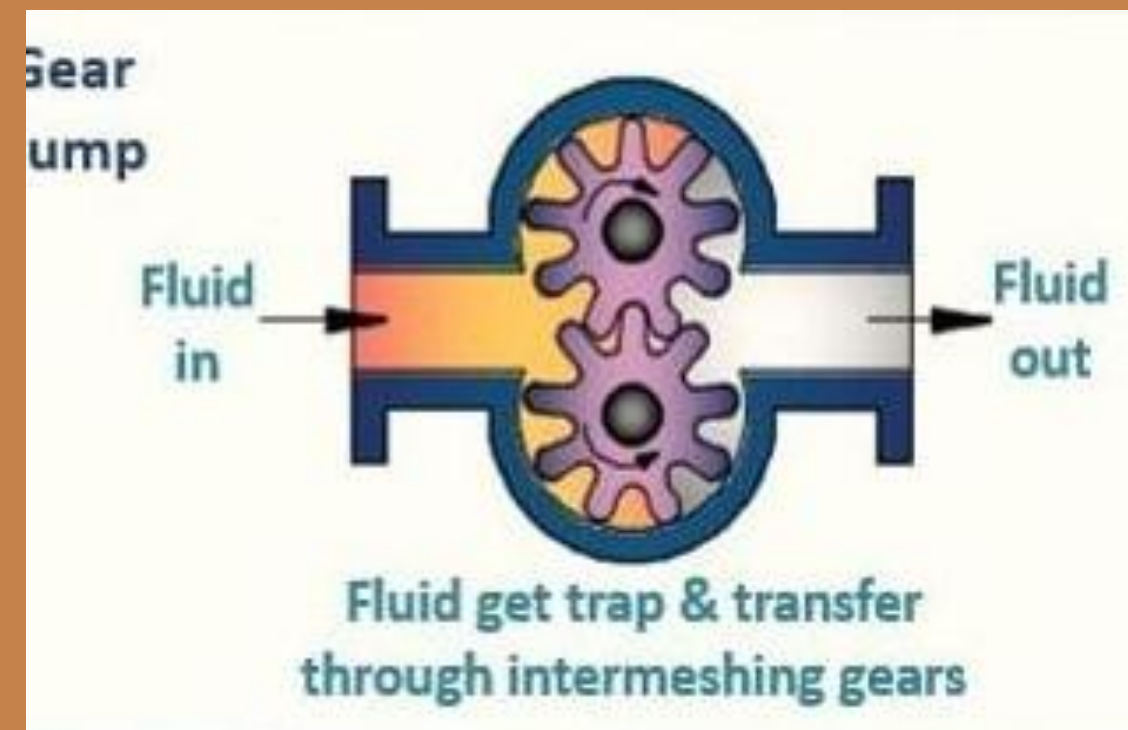
- Regional land and loan programs
- Technical and commercial consultation
- Customs duty exemptions on exports

Note: ISTP = Independent Sewage Treatment Plant  
 Source: EMIS; Arizton Advisory & Intelligence; Team analysis

# Potential rotary pumps localized categories

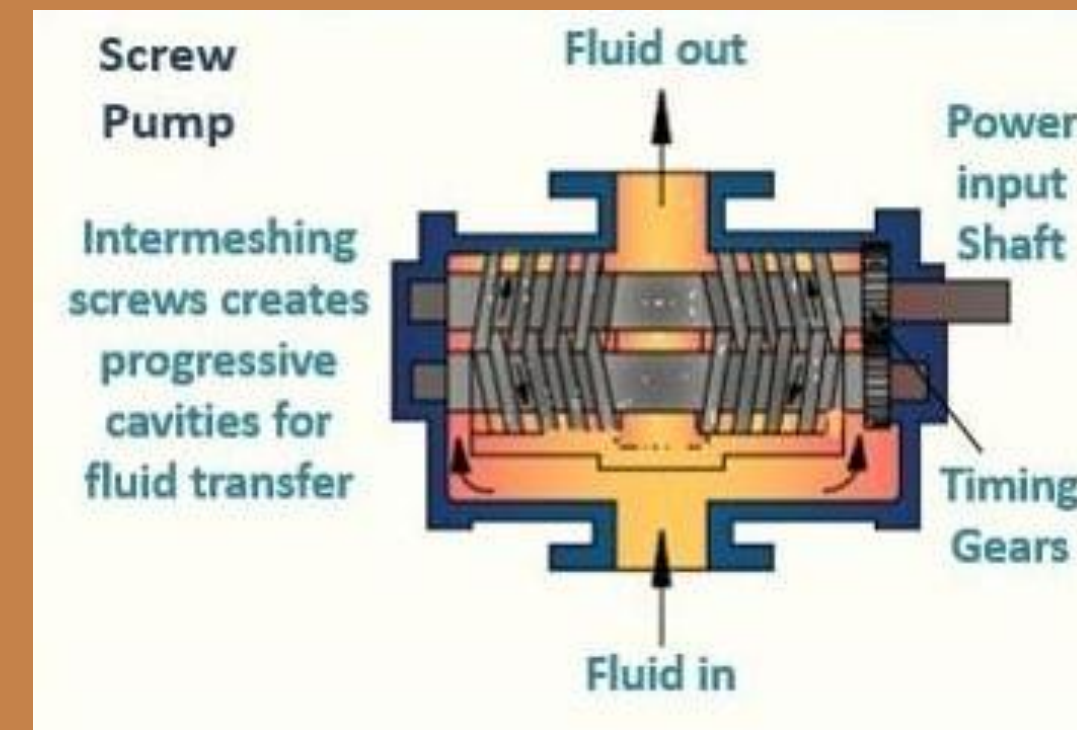
Non-exhaustive

## Gear pump



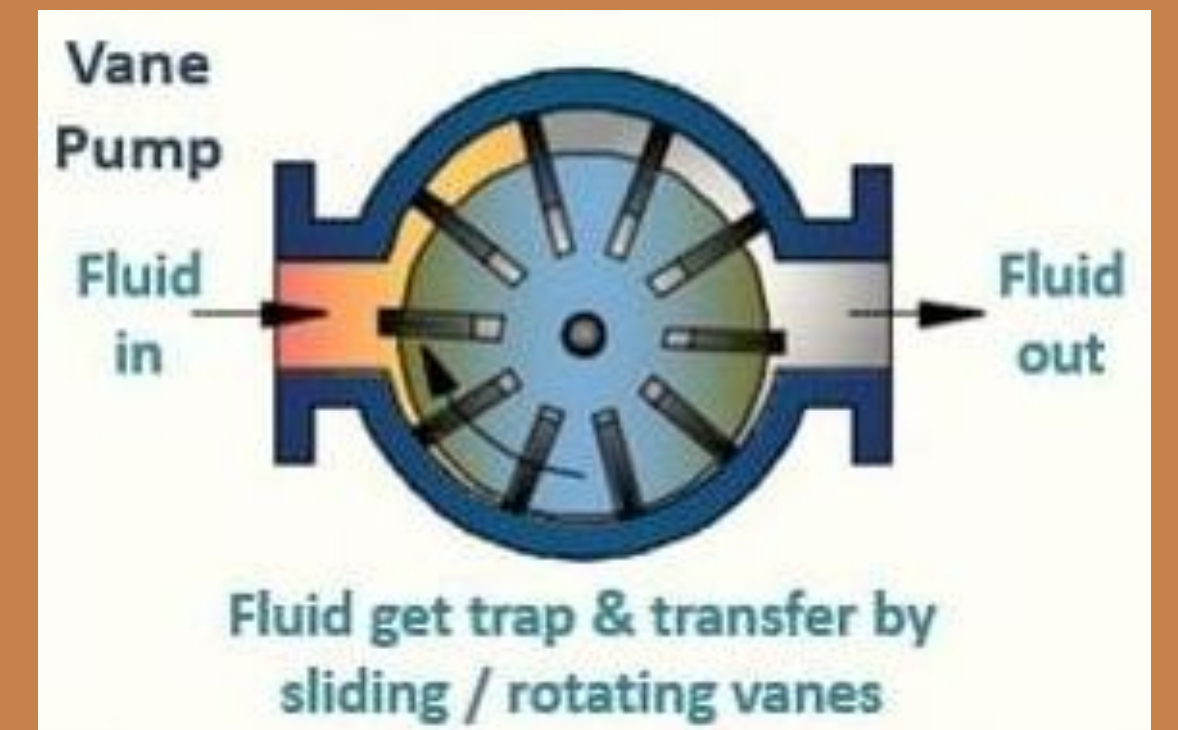
- Handling of viscous liquids
- Hydraulic systems, fuel transfer, oil processing, and chemical transport

## Screw pump



- Handling of viscous liquids
- Oil transfer and wastewater treatment

## Vane pump

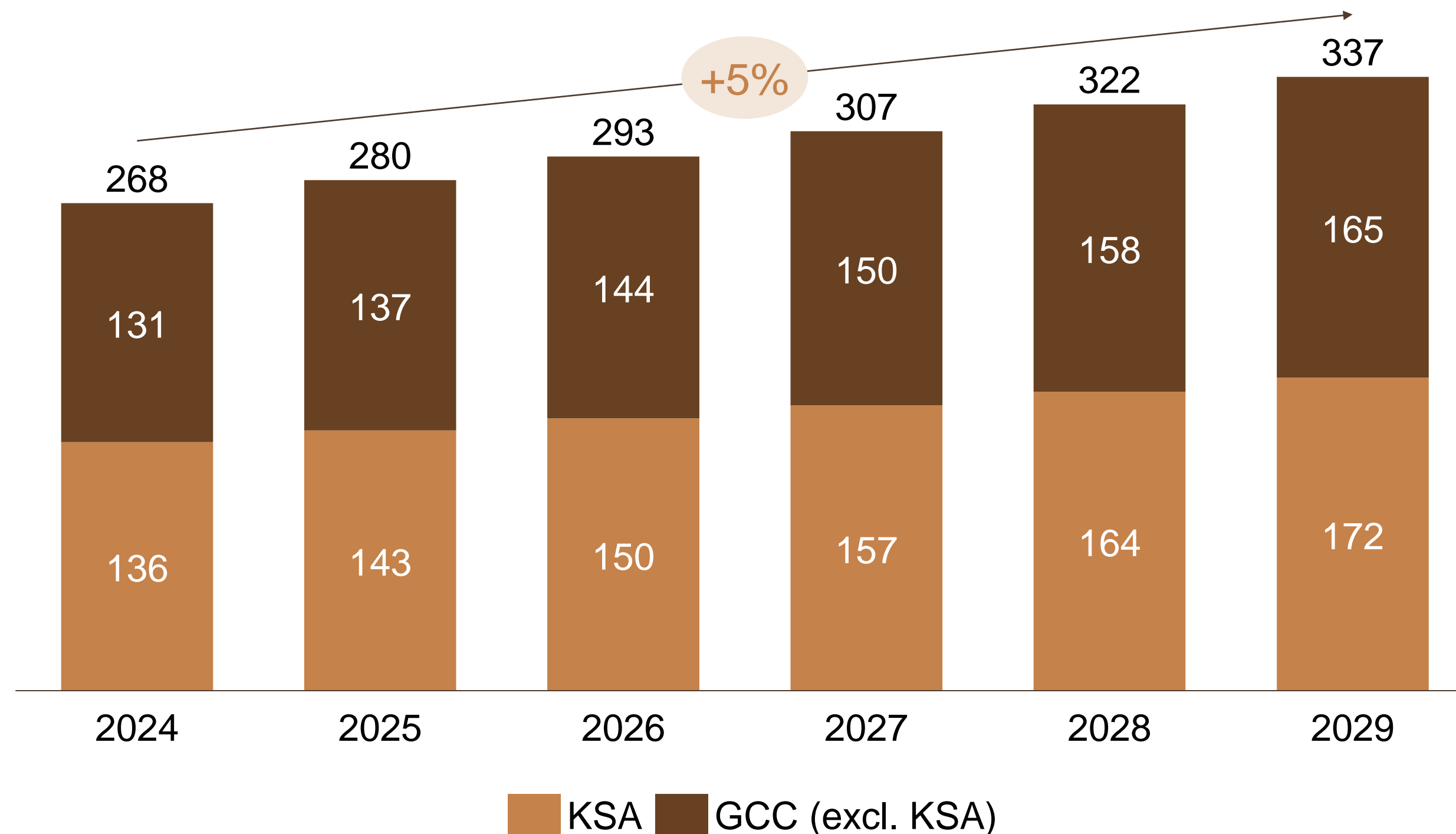


- Handling of thin liquids
- Automotive systems, fuel transfer, and refrigeration

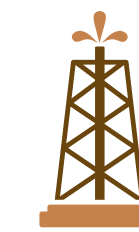
### Applications

# Rotary pumps demand, customers, and drivers

Forecasted KSA and rest of GCC rotary pumps market 2024-2029 (\$MM)



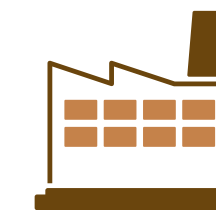
## Typical rotary pumps customers in KSA



Oil & gas sector



Petrochemical plants



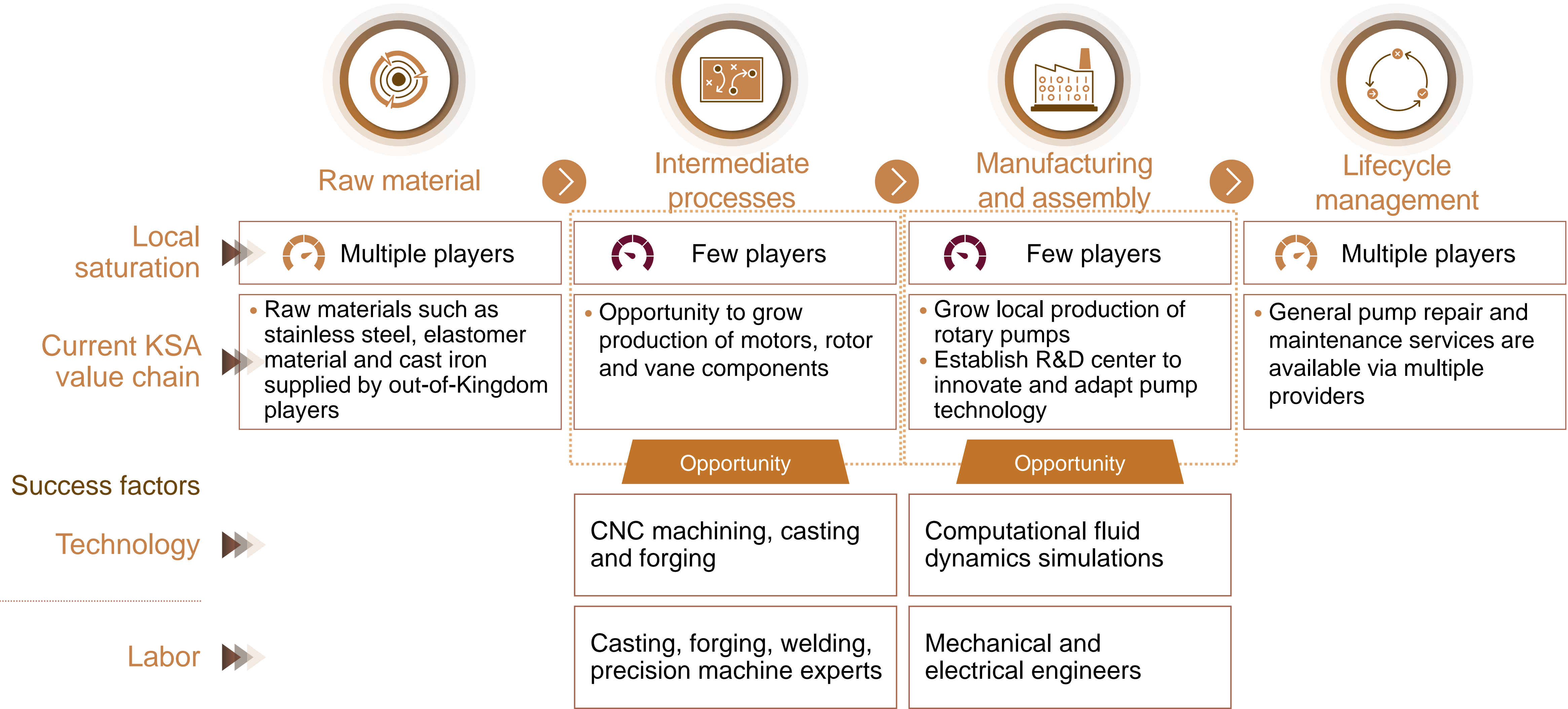
Utility companies

## Key KSA demand drivers

- **Energy sector priority:** Expansion of energy projects drives the demand for rotary pumps, as the oil transfer through pipeline systems depends on rotary pumps
- **Industry trends:** Rotary pumps demand expected to grow due to their crucial role in KSA water system expansions such as water transmission lines and desalination plants

Catalyzing Supply Chains

# Value chain and key localization opportunities



Catalyzing Supply Chains

Note: Lifecycle management including all post-production services, including installation  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Capital enablers:** Regional land and loan programs from SIDF and industrial land authorities such as KAEC for plant setup



**Fiscal incentives:** Customs duty exemptions provided by SEDA and ZATCA on exports to wider GCC markets

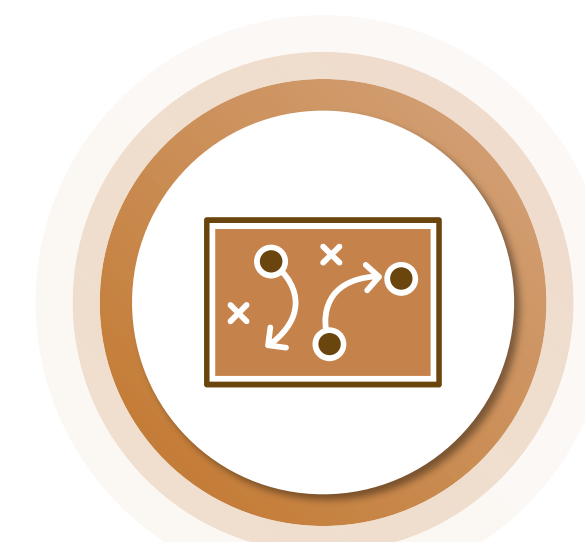


**Technical enablers:** Advanced manufacturing support from KACST on technical guidance and infrastructure setup



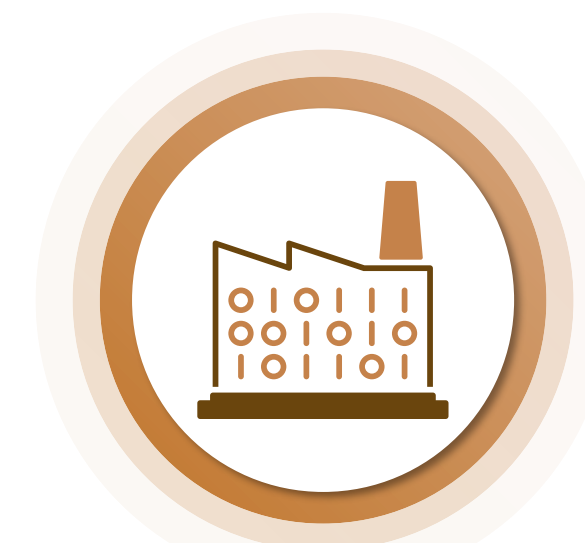
**Human capital enablers:** NITI training to skill mechanical, hydraulic and electric engineers for the manufacturing of rotary pumps

## Where is the opportunity



Intermediate processes

Opportunity to grow production of motors, rotor and vane components



Manufacturing

Grow local production of rotary pumps and establish R&D center to innovate and adapt pump technology

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup; Note: SIDF = Saudi Industrial Development Fund; KAEC = King Abdullah Economic City; SEDA = Saudi Export Development Authority; ZATCA = Zakat, Tax, and Customs; KACST = King Abdulaziz City for Science & Technology; NITI = National Industrial Training Institute  
 Source: Team analysis

## Gas Turbines

*Khalid Alotaibi*

# Opportunity profile—gas turbines

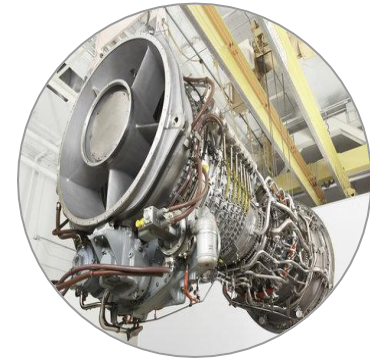
1

KSA requires gas turbines to realize energy and power generation projects

### Types



Industrial gas turbine



Aeroderivative

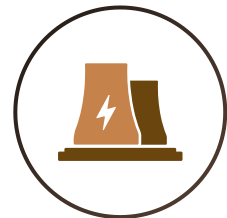


Mechanical drive

### Applications



Oil and gas transport



Power generation



Industrial manufacturing

### Example

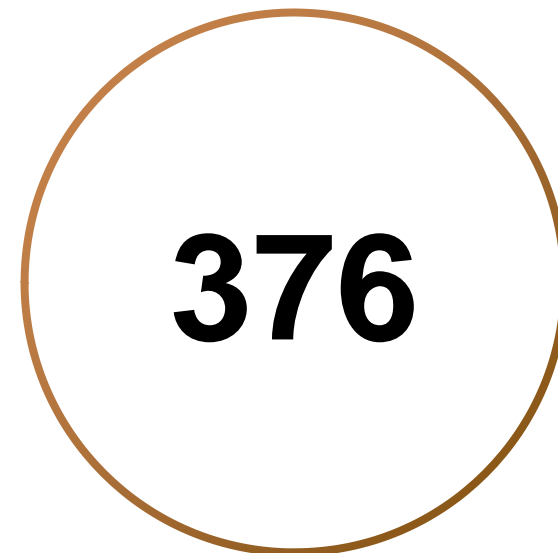
Pump engine

Grid stability

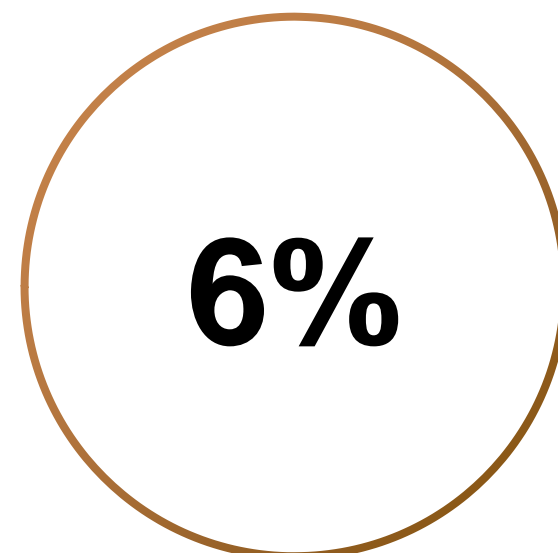
Heat generation

2

The gas turbines market experiences a steady increase in KSA and GCC



Estimated 2024 KSA market size. \$MM

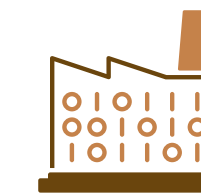


Forecasted 5-year CAGR

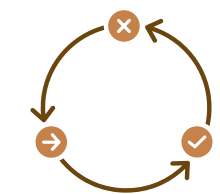
3

Attractive investment opportunities for the gas turbines value chain

### KSA value chain opportunities



Manufacturing



Lifecycle management

### KSA enablers

- CAPEX financing programs
- Streamlined visa process by MHRSD to facilitate skilled expat hiring
- Trade facilitation support by SEDA to ease procedures for exports

Catalyzing Supply Chains

# Potential gas turbines localized categories

Non-exhaustive

## Industrial gas turbine



### Applications

- Drive large compressors to maintain pressure in pipes
- Conduct power generation for on-site electricity

## Aeroderivative gas turbine



- Drive applications where rapid start-up and load changes are required

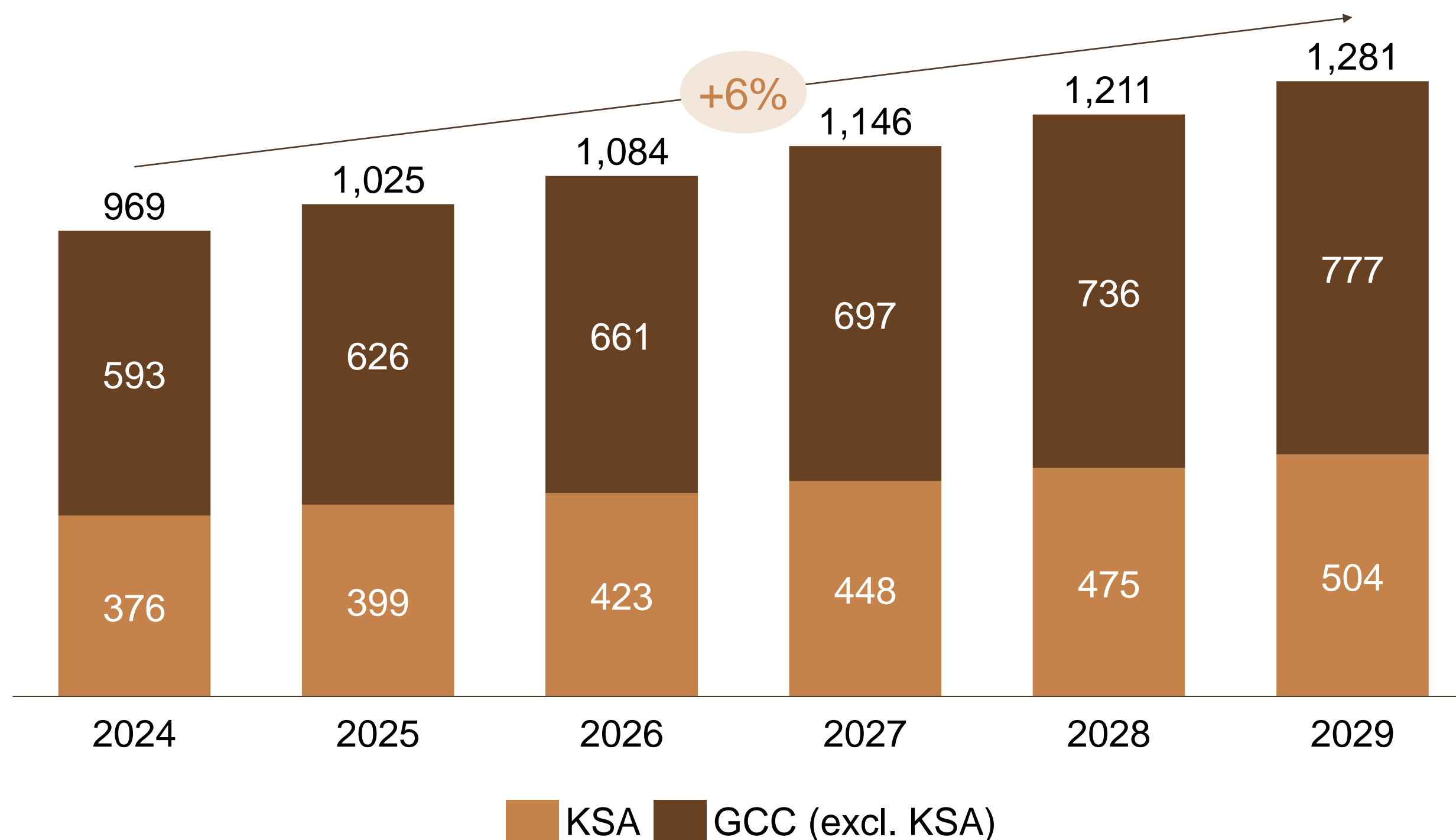
## Mechanical drive gas turbine



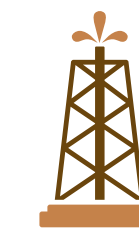
- Drive compressors for gas injection and extraction
- Operate pumps for oil and gas pipeline transports

# Gas turbines demand, customers, and drivers

Forecasted KSA and rest of GCC gas turbines market 2024-2029 (\$MM)



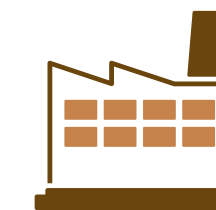
## Typical gas turbine customers in KSA



Oil & gas sector



Industrial manufacturing companies



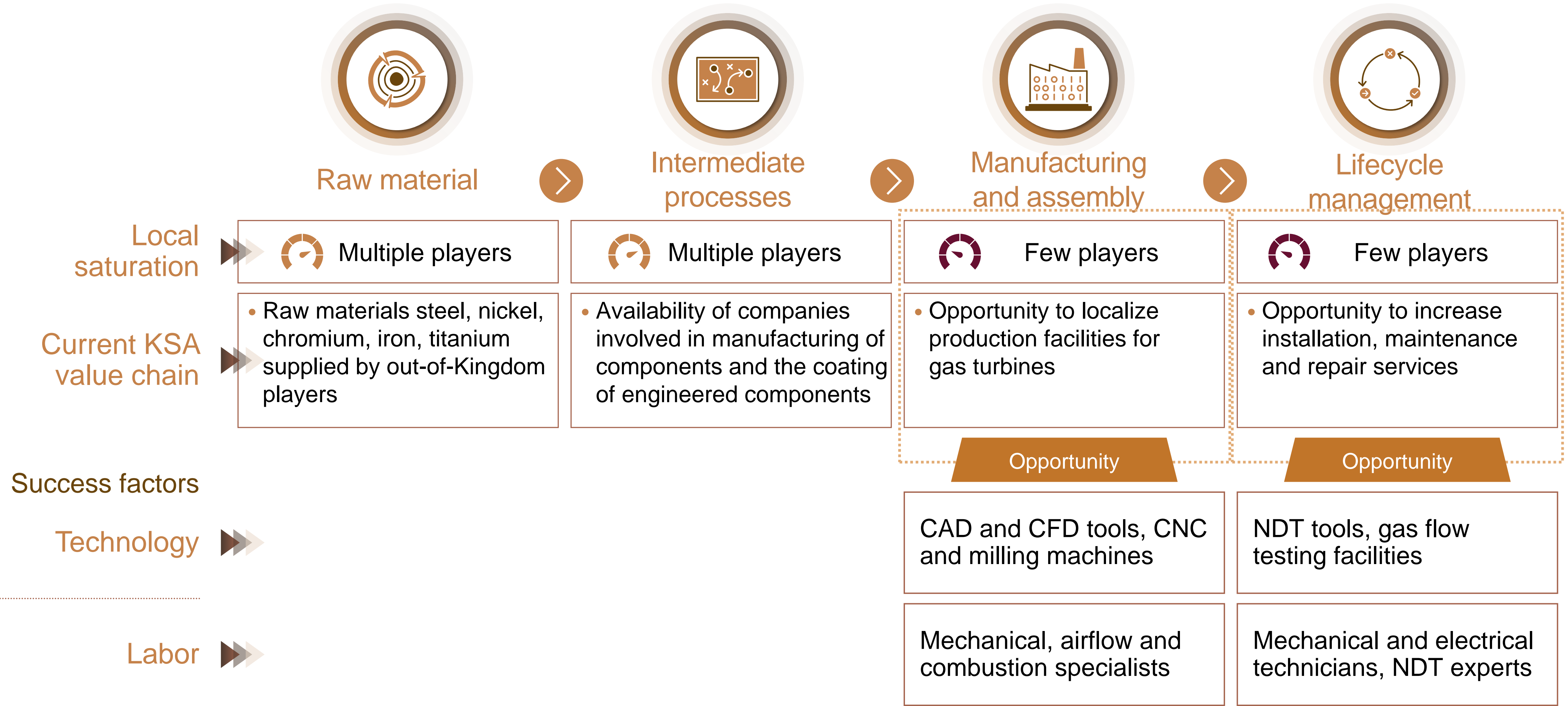
Utility providers

## Key KSA demand drivers

- **Industry trends:** Large-scale oil and gas projects need gas turbines to provide power and drive applications on offshore platforms
- **Electricity demand:** Rapid population growth and urbanization are driving higher electricity consumption, necessitating increased power generation capacity

Catalyzing Supply Chains

# Value chain and key localization opportunities



**Catalyzing Supply Chains**

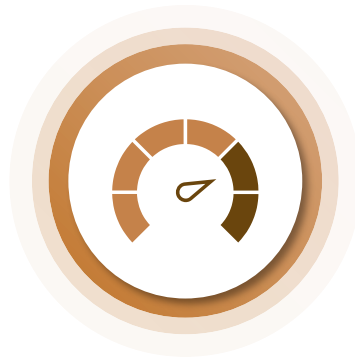
Note: Lifecycle management including all post-production services, including installation; CAD = Computer-Aided Design; CFD = Computational Fluid Dynamics; CNC = Computer numerical control; NDT = Non-destructive testing  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



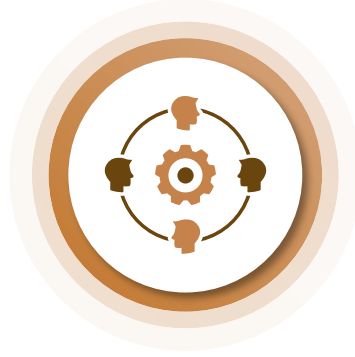
**Financial enablers:** SIDF provides CAPEX loans for specialized equipment procurement and local facility setup



**Skilled visa processing:** MHRSD facilitates hiring expats with technical expertise on gas turbines via streamlined visa processes



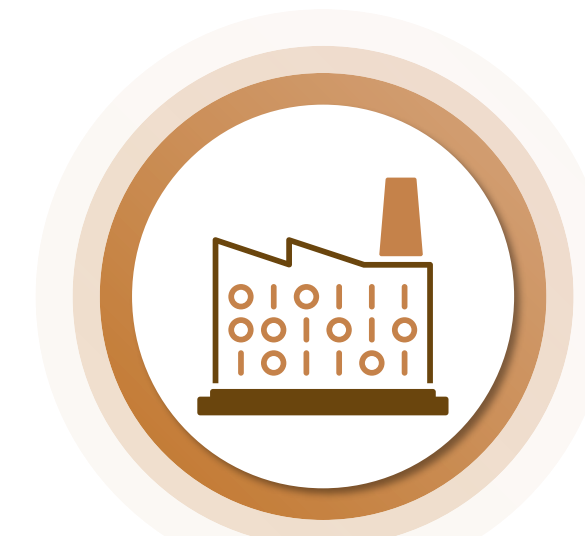
**Export enabler:** Financing, insurance, and trade facilitation support from SEDA to ease procedural hurdles for gas turbine exporters



**Quality certification funding:** Funding by SIDF to obtain necessary certifications to meet industry standards for gas turbines

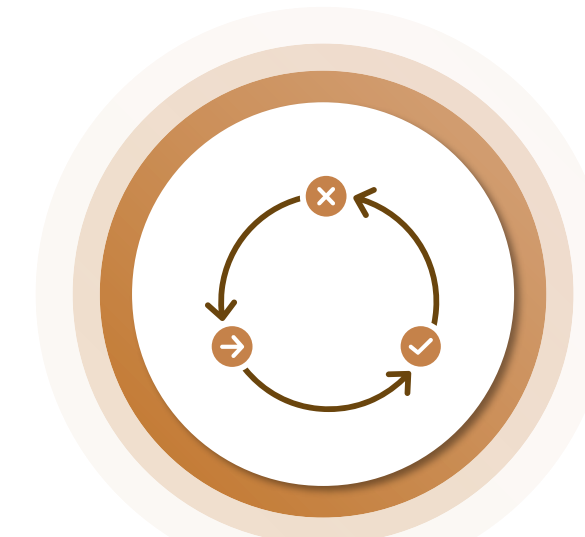


## Where is the opportunity



Opportunity to localize production facilities for gas turbines

Manufacturing



Opportunity to increase local installation, maintenance and repair services

Lifecycle management

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup

Note: SIDF = Saudi Industrial Development Fund; MHRSD = Ministry of Human Resources and Social Development; SEDA = Saudi Export Development Authority

Source: Team analysis

## Spectacle Plates

*Khalid Alotaibi*

# Opportunity profile—spectacle plates

1

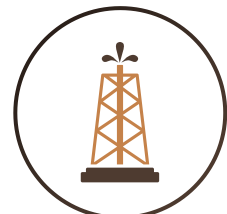
KSA in need of spectacle plates for pipeline expansion and maintenance

### Types

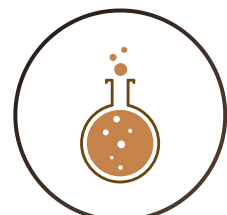


Eight-shaped spectacle plates

### Applications



Oil and gas infrastructure



Chemical processing



Water treatment

### Example

Pipeline isolation

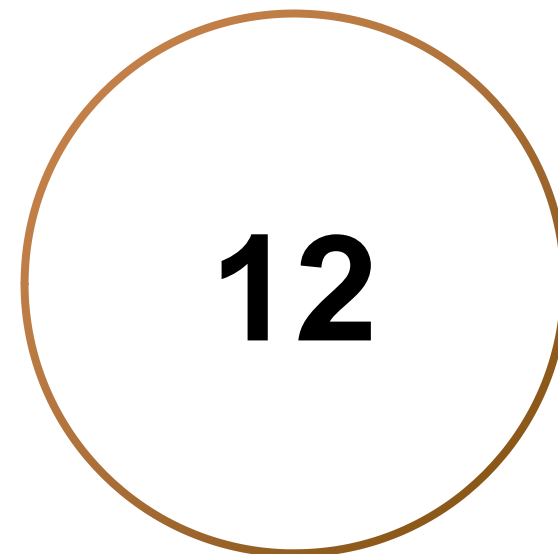
Sadana

ISTPs

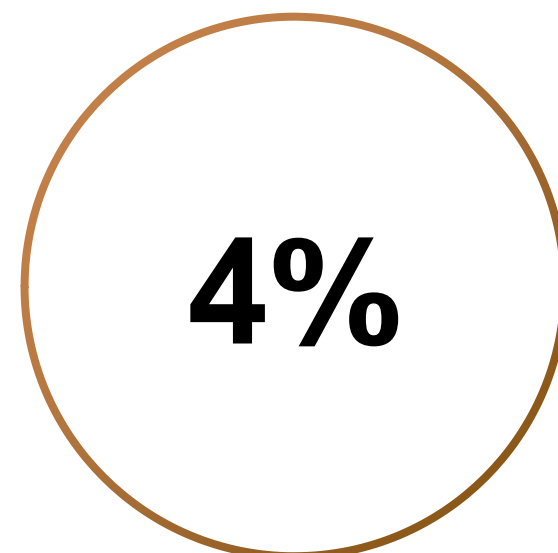
Catalyzing Supply Chains

2

The spectacle plates market experiences a moderate increase



Estimated 2024 KSA market size. \$MM

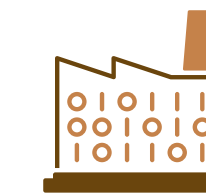


Forecasted 5-year CAGR

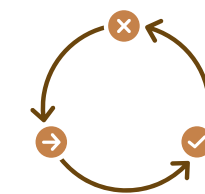
3

Attractive investment opportunities for the spectacle plates value chain

### KSA value chain opportunities



Manufacturing



Lifecycle management

### KSA enablers

- Working capital financing programs
- Custom duty exemptions by MoCI
- Subsidized training programs by HRDF

Note: ISTP = Independent Sewage Treatment Plant  
 Source: EMIS; Technavio; Team analysis

# Potential spectacle plates localized categories

## Eight-shaped spectacle plates

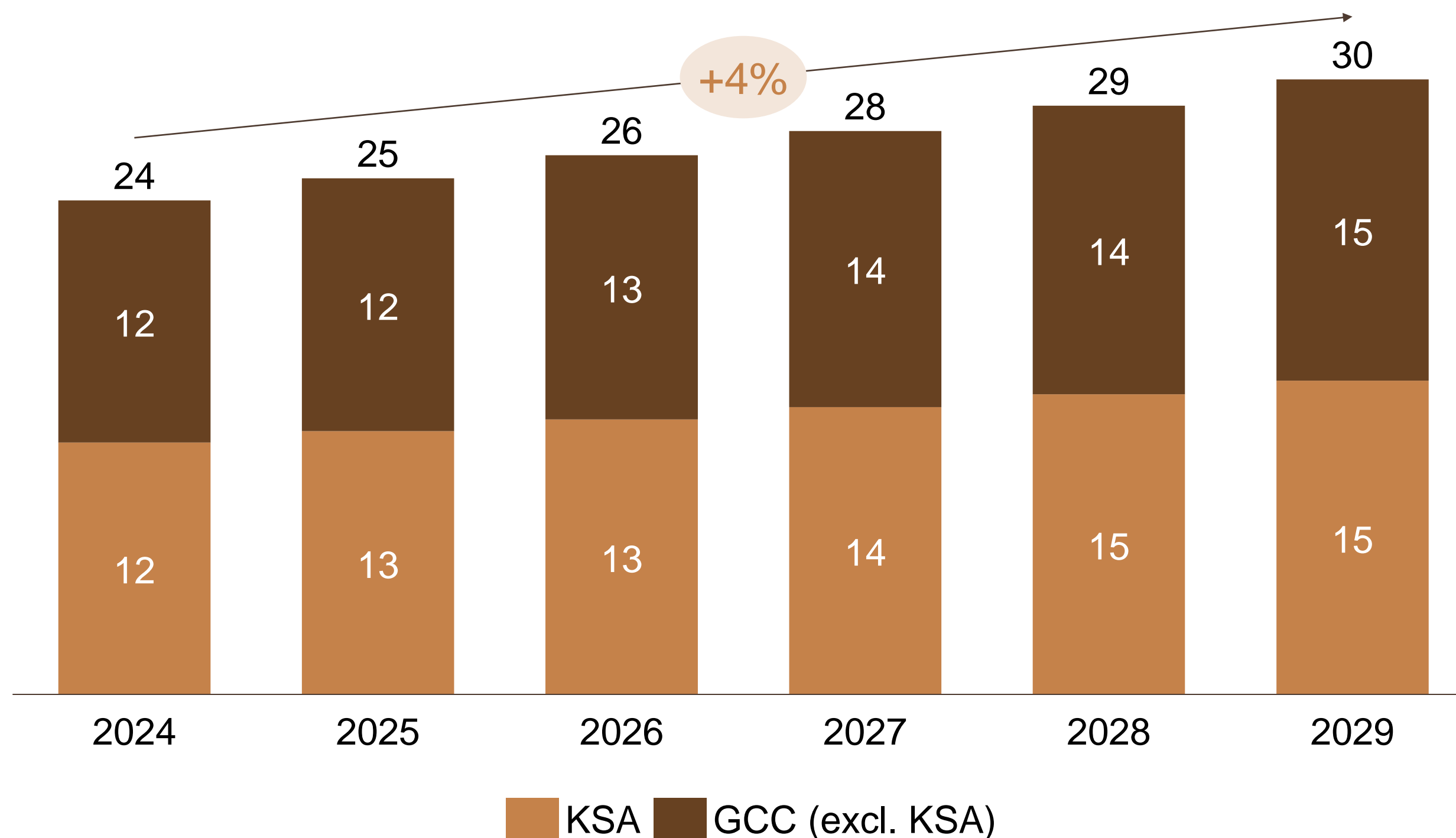


## Applications

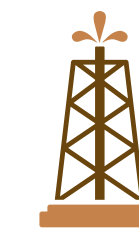
- Used in piping systems to block or allow flow during maintenance, testing, or operational adjustments
- Ensures safe isolation of pipeline sections to prevent accidents during repairs or inspections
- Assists in pressure testing and system integrity verification
- Widely employed in oil and gas, petrochemicals, power plants, and water treatment facilities

# Spectacle plates demand, customers, and drivers

Forecasted KSA and rest of GCC spectacle plates market 2024-2029 (\$MM)



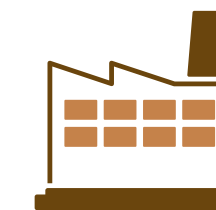
## Typical spectacle plates customers in KSA



Oil & gas sector



Petrochemical plants



Utility companies

## Key KSA demand drivers

- **Energy sector growth:** KSA needs spectacle plates for the expansion and maintenance of its growing oil and gas pipeline network
- **Industry trends:** KSA annual chemical production capacity of 118 million tonnes drives the demand for spectacle plates in critical industrial piping systems

Catalyzing Supply Chains

# Value chain and key localization opportunities



**Catalyzing Supply Chains**

Note: Intermediate processes are completed by manufacturing companies as raw materials are directly processed to produce spectacle plates;

NDT = Non-destructive testing

Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Financial program:** Access to working capital financing from SIDF to build inventory capacities for large-scale projects



**Customs enablers:** Custom duty exemption from MoCI on machinery and equipment for establishment of local manufacturing



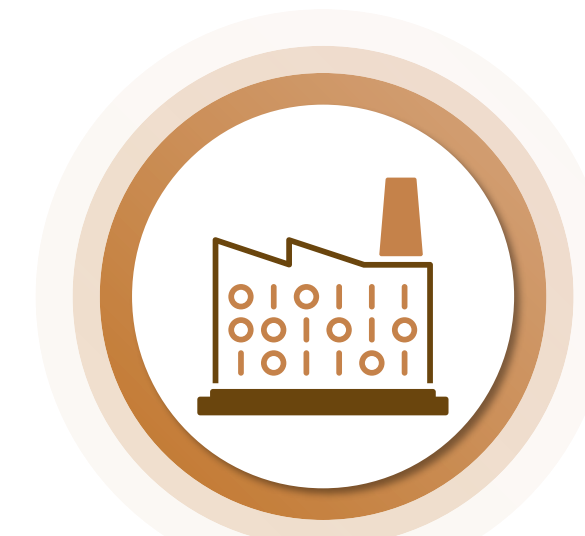
**Land access:** Subsidized land for plant setup across industrial zones under MODON, Royal Commission for Jubail and Yanbu, etc.



**Workforce development:** Fully covered or subsidized training programs by HRDF for productions operations

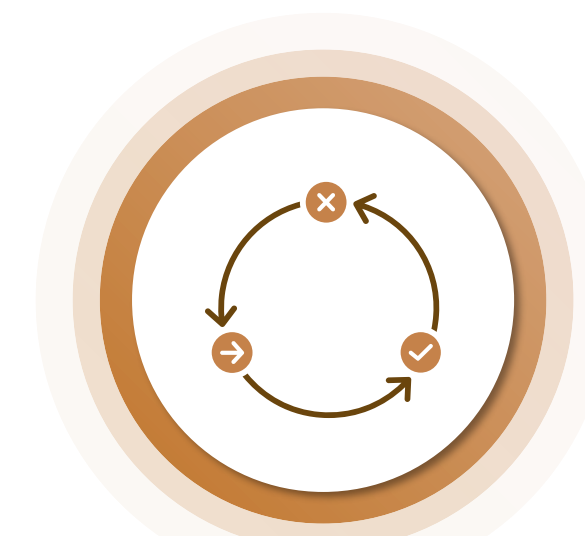


## Where is the opportunity



**Manufacturing**

Opportunity to increase local production of spectacle plates



**Lifecycle management**

Opportunity to grow the number of providers for testing, inspection, and integrity management services of pipeline systems

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup; Note: SIDF = Saudi Industrial Development Fund; MoCI = Ministry of Commerce and Industry; MODON = Saudi Authority for Industrial Cities and Technology Zones; HRDF = Human Resource Development Fund  
Source: Team analysis

## Plug Valve

*Khalid Alotaibi*

# Opportunity profile—plug valves

1

KSA requires plug valves to realize its oil and gas expansion

### Types



Lubricated

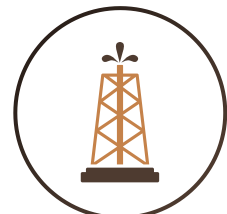


Non-lubricated

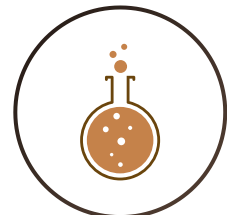


Multiport

### Applications



Oil and gas infrastructure



Chemical processing



Water treatment

### Example

Pipe flow control

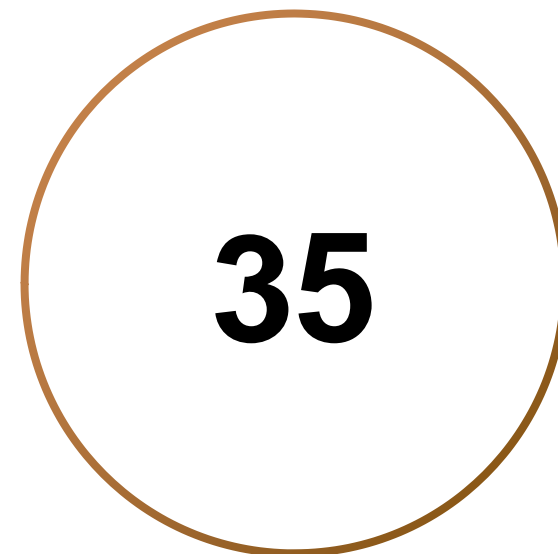
Reactor inflow

ISTPs

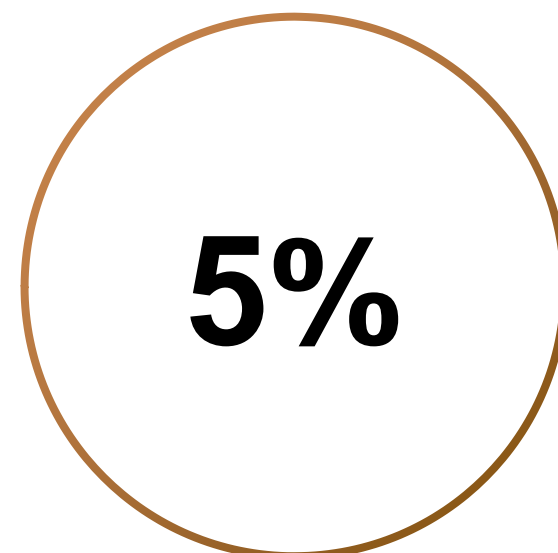
Catalyzing Supply Chains

2

The plug valves market experiences a steady increase in KSA and GCC



Estimated 2024 KSA market size. \$MM

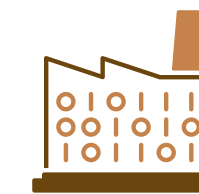


Forecasted 5-year CAGR

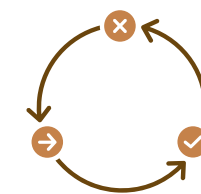
3

Attractive investment opportunities for the plug valves value chain

### KSA value chain opportunities



Manufacturing



Lifecycle management

### KSA enablers

- Access to financial loans from SIDF
- Custom duty exemptions for the import of machinery and equipment
- Inspection training by ITQAN Institute

# Potential plug valves localized categories

Non-exhaustive

## Lubricated plug valves



- Ideal to handle high-pressure systems and gases
- Applied for critical operation in oil and gas pipelines

## Non-lubricated plug valves



- Used in systems where maintenance needs to be minimized, such as chemical processing within refineries

## Multiport plug valves

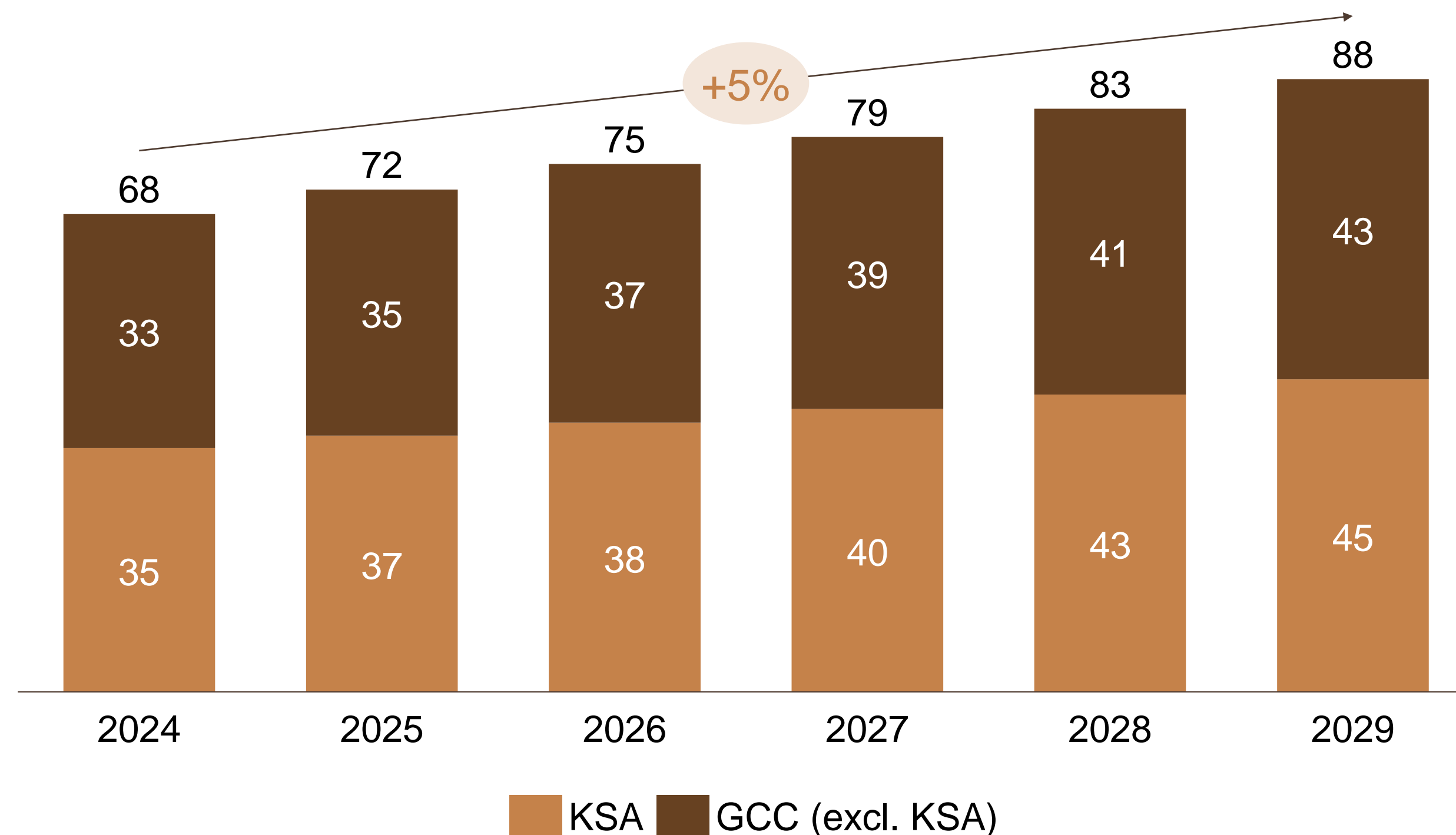


- Used in complex pipeline networks to control direction of flow, facilitating switching between processing streams

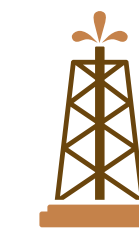
### Applications

# Plug valves demand, customers, and drivers

Forecasted KSA and rest of GCC plug valves market 2024-2029 (\$MM)



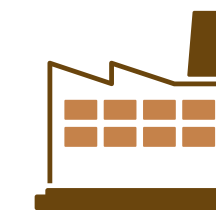
## Typical plug valves customers in KSA



Oil & gas sector



Petrochemical plants



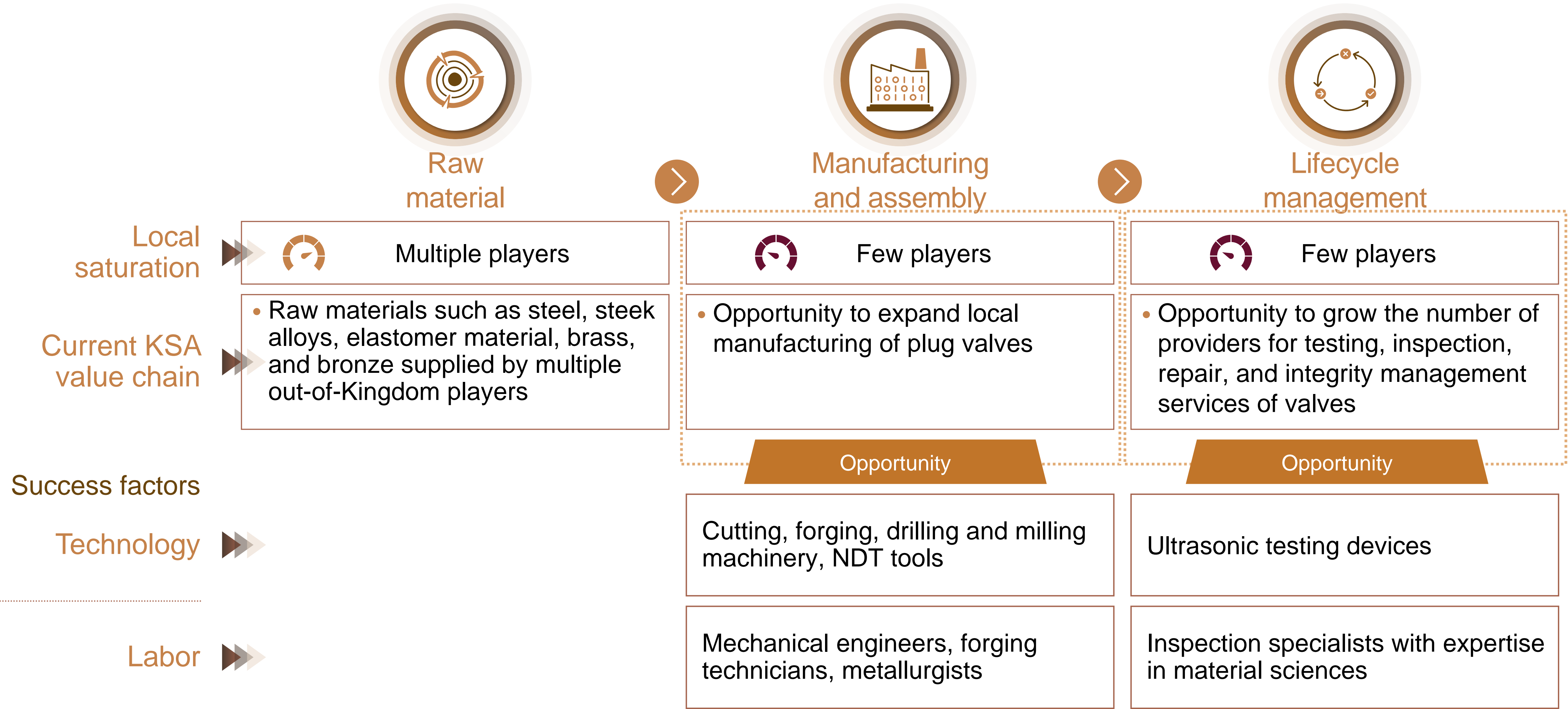
Utility providers

## Key KSA demand drivers

- **Energy sector growth:** KSA needs plug valves for the flow control in its growing oil and gas pipeline network
- **Industry trends:** Development of desalination and wastewater treatment plants to meet growing water demand increases the need for reliable plug valves

Catalyzing Supply Chains

# Value chain and key localization opportunities



Static & Rotating Equipment Workshop

**Catalyzing Supply Chains**

Note: Intermediate processes are completed by manufacturing companies as raw materials are directly processed to produce valve plugs  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Financial incentives:** Access to financial loans such as Kafalah by SIDF for establishing valve plug manufacturing plants



**Technical support:** Technical consultations and R&D partnership support from KACST to grow manufacturing and inspection services

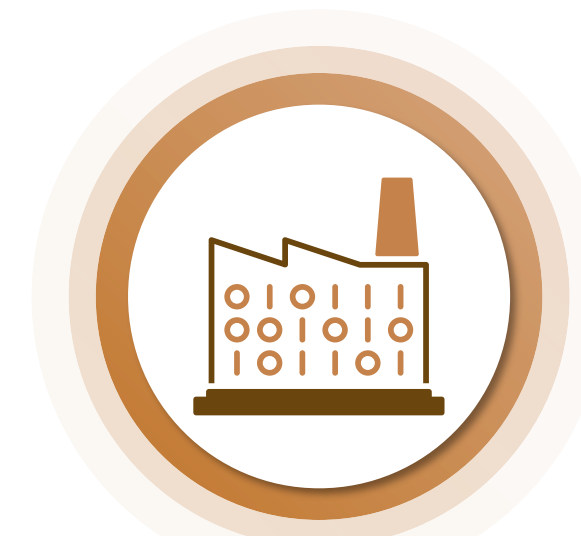


**Customs enablers:** Custom duty exemption from MoCI on machinery and equipment for the establishment of valve plug production



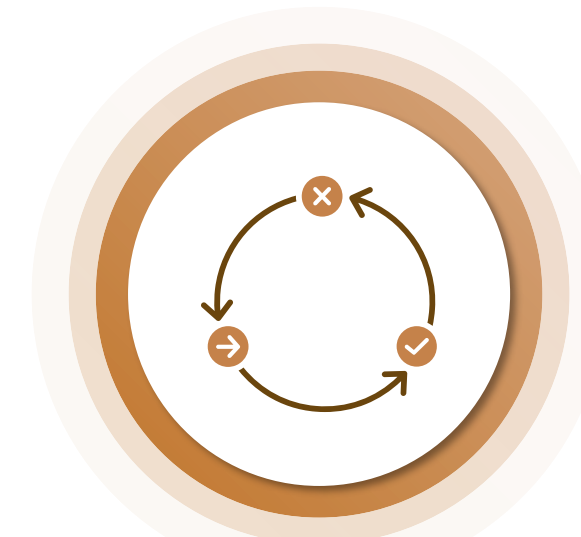
**Human capital enablers:** ITQAN Institute offering specialized training for pipeline and valve inspection and integrity management

## Where is the opportunity



Opportunity to expand local manufacturing of plug valves

Manufacturing



Opportunity to grow the number of providers for testing, inspection, repair, and integrity management services of valves

Lifecycle management

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup; Note: SIDF = Saudi Industrial Development Fund; KACST = King Abdulaziz City for Science and Technology; MoCI = Ministry of Commerce and Industry; ITQAN = Inspection Technology and Quality Assurance National Institute  
 Source: Team analysis

## Steel Pipe Bending

*Laila Alramadan*

# Opportunity profile—steel pipe bending

1

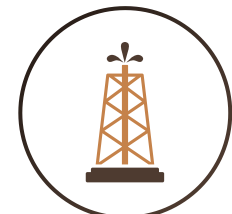
KSA has demand for pipe bending to support its oil and gas expansion

## Types



Steel pipe bending

## Applications



Oil and gas infrastructure



Power generation



Petrochemical plants

## Example

Pipe fluid dynamics

Cooling systems

Pressure fluids

Catalyzing Supply Chains

2

The steel pipe bending market experiences a steady increase

476

Estimated 2024 KSA market size. \$MM

6%

Forecasted 5-year CAGR

3

Attractive investment opportunities in steel pipe bending value chain

## KSA value chain opportunities



Service delivery

## KSA enablers

- CAPEX financing programs from SIDF
- Customs duty exemption from MoCI
- Subsidized infrastructure, land, and utilities in dedicated zones

# Potential steel pipe bending localized categories

## Steel pipe bending



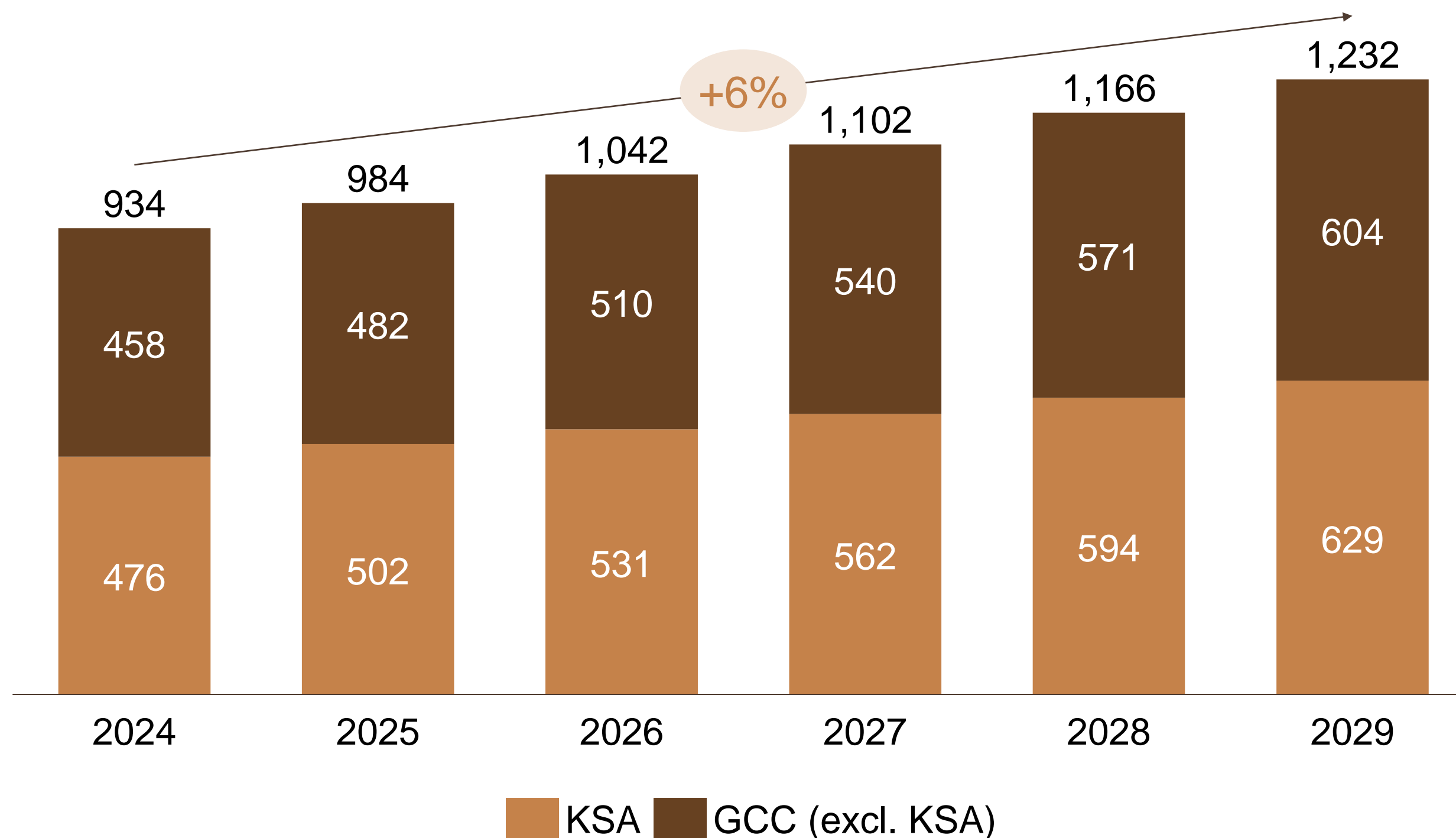
### Applications

**3D+ steel pipe bending as a focus area as it is:**

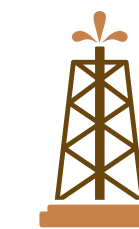
- Suitable for high-pressure, high-flow systems
- Used in oil and gas for pipeline routes where smooth directional changes are needed to maintain fluid dynamics
- Used in petrochemical plants for handling high-pressure fluids without turbulence or energy loss

# Steel pipe bending demand, customers, and drivers

Forecasted KSA and rest of GCC steel pipe bending market 2024-2029 (\$MM)



## Typical pipe bending customers in KSA



Oil & gas sector



Petrochemical plants

## Key KSA demand drivers

- **Infrastructure projects:** Demand for pipe bending is growing as construction of cities like NEOM involves complex piping systems for water, energy, and waste management
- **Sector expansion:** KSA expands its oil and gas projects, requiring extensive pipeline networks with pipe bends for fluid transport

Catalyzing Supply Chains

# Value chain and key localization opportunities



Pre-service material sourcing



Service delivery



Local saturation

▶▶▶  Multiple players

▶▶▶  Few players

Current KSA value chain

- Availability of steel pipes that are supplied by multiple local manufacturers

- Opportunity to increase the number of local providers for 3D+ steel pipe bending services

Opportunity

Success factors

Technology



Multi-axis CNC pipe benders, hot induction or mandrel bending machinery, non-destructive testing techniques

Labor



Mechanical engineers and metallurgists

Catalyzing Supply Chains

Note: CNC = Computer numerical control  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Subsidies and financial programs:** Access to CAPEX financing programs from SIDF, e.g., Kafalah to establish factories and purchase 3D+ pipe bending equipment



**Customs enablers:** Customs duty exemption from MoCI on machinery and equipment for expansion of local pipe bending services



**Subsidy enablers:** Subsidized infrastructure, land, and utilities in dedicated zones, e.g., via MODON to attract local service provision



**Technical enabler:** Advanced manufacturing support from KACST on technical guidance and infrastructure setup for pipe bending

## Where is the opportunity



Service  
 delivery

Opportunity to increase the number of local providers for 3D+ steel pipe bending services

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup; Note: SIDF = Saudi Industrial Development Fund; MoCI = Ministry of Commerce and Industry; MODON = Saudi Authority for Industrial Cities and Technology Zones; KACST = King Abdulaziz City for Science & Technology  
 Source: Team analysis

## AGT Servicing and Overhaul

*Laila Alramadan*

# Opportunity profile—AGT servicing and overhaul

1 KSA has a strong demand for AGT servicing for its energy infrastructure

2 AGT servicing and overhaul market experiences a substantial increase

3 Attractive investment opportunities for AGT servicing value chain

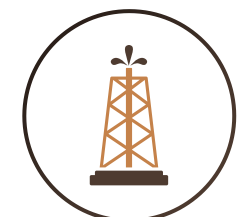
## Types

Routine servicing

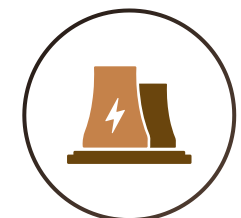
Major overhaul

Technology upgrades

## Applications



Oil and gas



Power generation



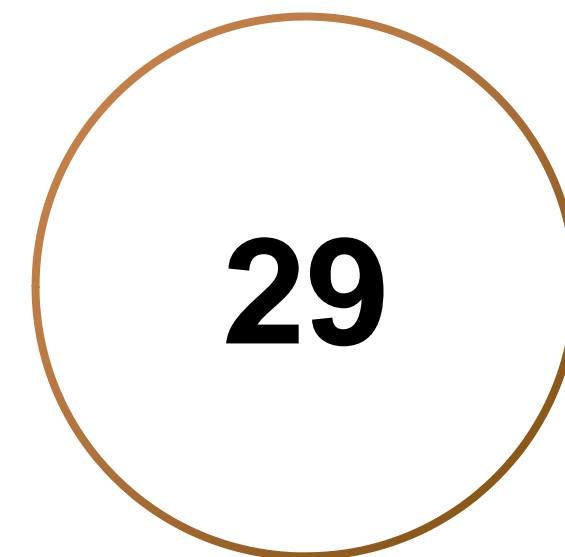
Industrial manufacturing

## Example

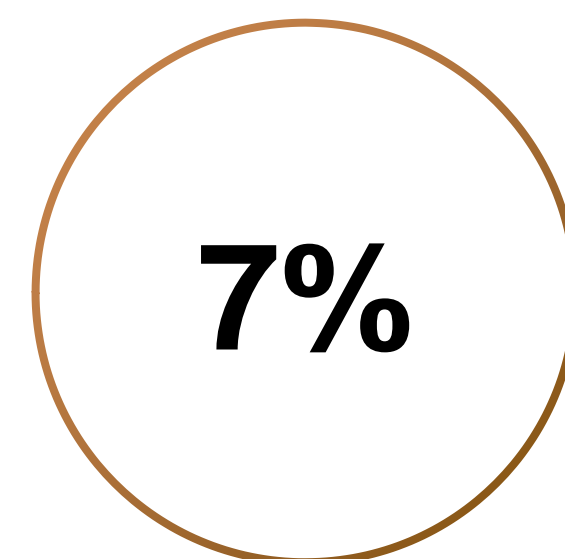
Offshore platforms

Peak-load stations

CHP generation



Estimated 2024 KSA market size. \$MM



Forecasted 5-year CAGR

## KSA value chain opportunities



Pre-service sourcing



Service delivery

## KSA enablers

- Inspection training programs by ITQAN
- Customs duty exemption on equipment
- Facilitated visa processing for experts

### Catalyzing Supply Chains

Note: AGT = Aeroderivative gas turbine; CHP = Combined heat and power  
 Source: EMIS; Market Research Future; Team analysis

# Potential AGT servicing & overhaul localized categories

Non-exhaustive

## Routine servicing

Regular maintenance of components like compressors, turbines, and combustors

## Major overhaul

Full disassembly, inspection, repair, and modernization of turbine systems

## Technology upgrades

Retrofitting with modern tech for efficiency or emission compliance

### Applications

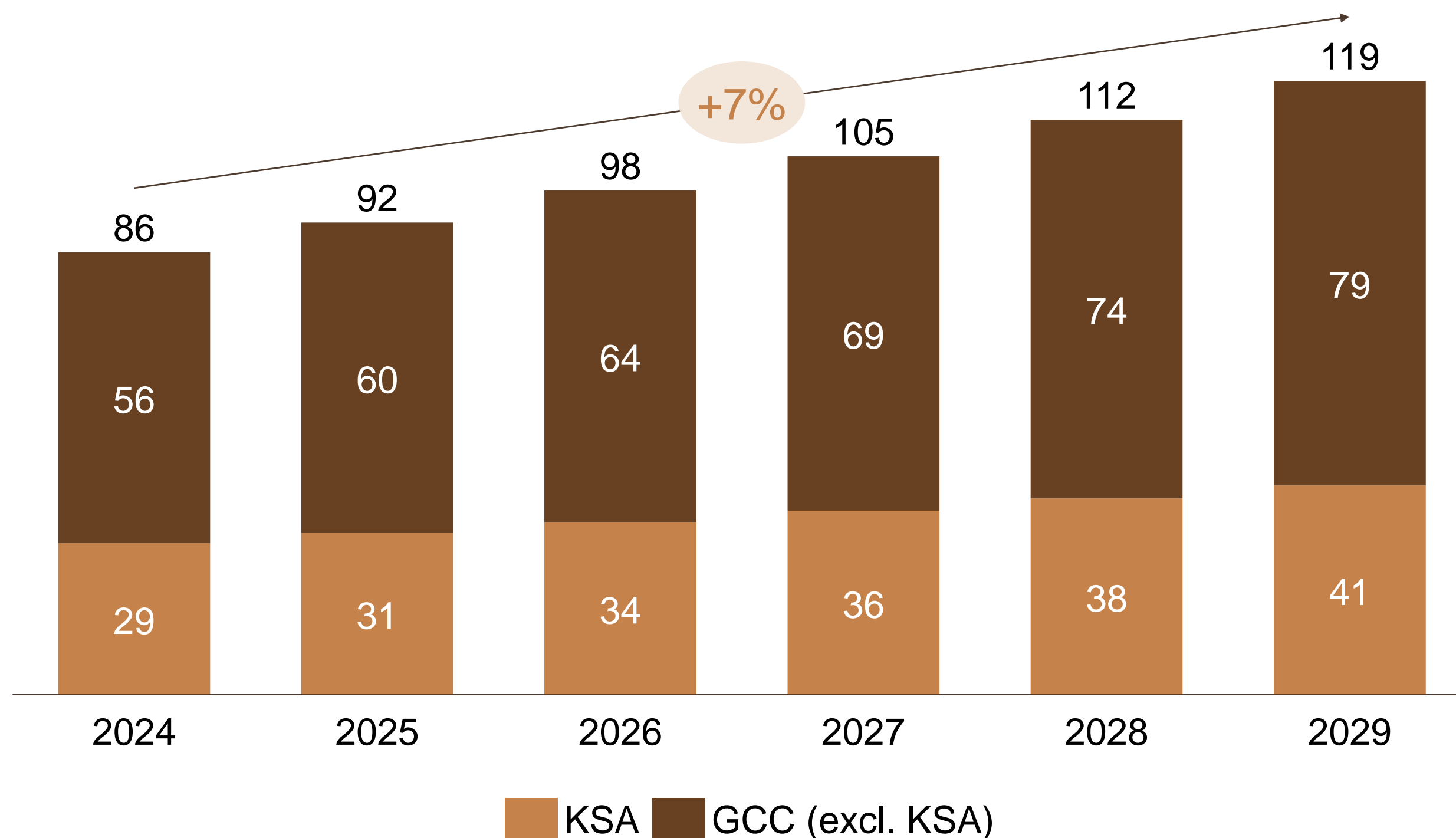
- Prevents breakdowns
- Ensures efficiency

- Extends turbine life
- Upgrades performance

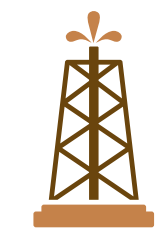
- Enhances performance
- Ensures environmental compliance

# AGT servicing and overhaul demand, customers, and drivers

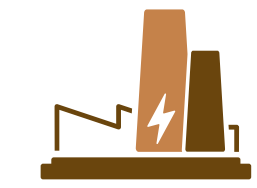
Forecasted KSA and rest of GCC AGT servicing market 2024-2029 (\$MM)



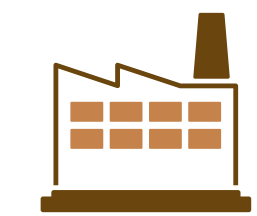
## Typical AGT servicing customers in KSA



Oil & gas sector



Power generation providers



Industrial manufacturing companies

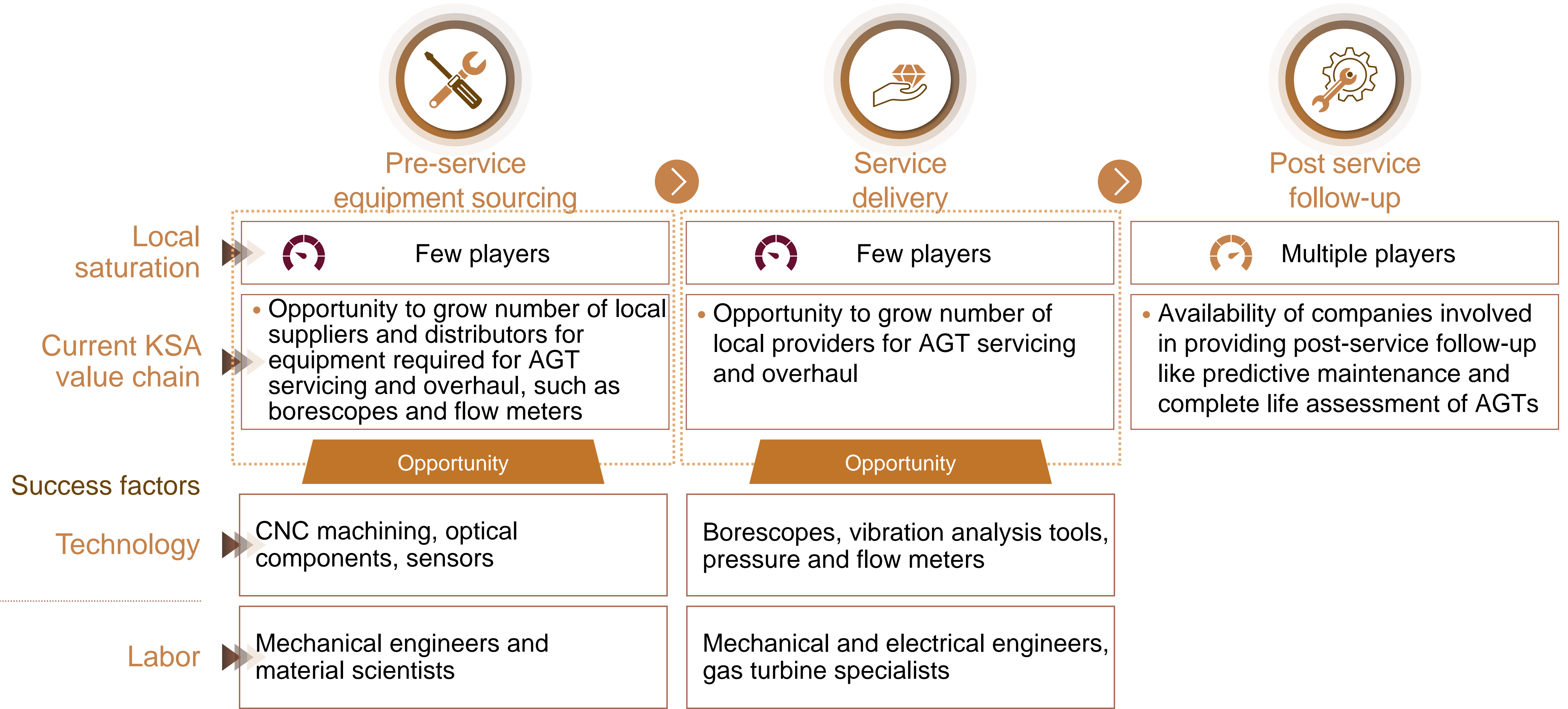
## Key KSA demand drivers

- **Industry expansion:** Projects like Master Gas System Phase 3 require reliable AGTs to enhance gas distribution across KSA, driving the need for frequent servicing and overhaul
- **Energy efficiency initiatives:** Government policies promoting energy efficiency and sustainability are driving the adoption of frequent AGT servicing and overhaul

### Catalyzing Supply Chains

Note: AGT = Aeroderivative gas turbine  
Source: EMIS; Market Research Future; Team analysis

# Value chain and key localization opportunities



Catalyzing Supply Chains

Note: AGT = Aero-derivative gas turbine  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



**Human capital enablers:** ITQAN Institute offering specialized training to develop inspection and servicing capabilities



**Customs enablers:** Custom duty exemption from MoCI on machinery and equipment needed for AGT servicing and overhaul



**Skilled visa processing:** MHRSD facilitates hiring expatriates with technical expertise through streamlined visa processes



**Regulatory streamlining:** MISA's one-stop services provide fast licensing, guidance, and an online portal for simplified approvals

## Where is the opportunity



Pre-service sourcing

Opportunity to grow number of local suppliers and distributors for the equipment required for AGT servicing and overhaul



Service delivery

Opportunity to grow number of local providers for AGT servicing and overhaul

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup; Note: ITQAN = Inspection Technology and Quality Assurance National Institute; MoCI = Ministry of Commerce and Industry; MHRSD = Ministry of Human Resource and Social Development; MISA = Ministry of Investment Saudi Arabia  
 Source: Team analysis

## Gas Turbine Spare Parts

*Laila Alramadan*

# Opportunity profile—gas turbine spare parts

1

KSA has demand for GT spare parts mainly for its power generation plants

### Types



Filters

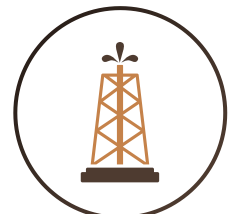


Combustion system

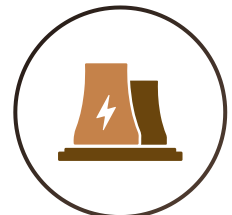


Turbine blades

### Applications



Oil and gas



Power generation



Industrial manufacturing

### Example

Pump engine

Grid stability

Heat generation

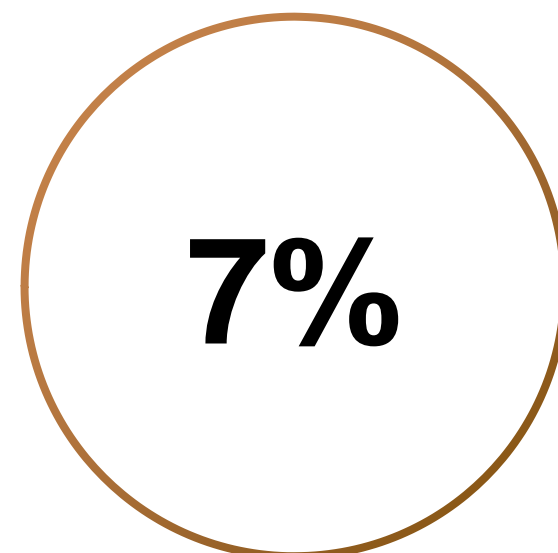
Catalyzing Supply Chains

2

GT spare parts market is sizeable and experiences a steady increase



Estimated 2024 KSA market size. \$MM

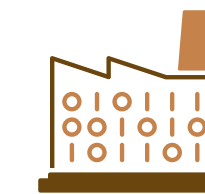


Forecasted 5-year CAGR

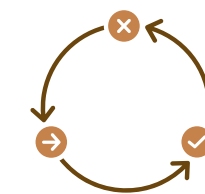
3

Attractive investment opportunities for GT spare parts value chain

### KSA value chain opportunities



Manufacturing



Lifecycle management

### KSA enablers

- CAPEX financing programs
- Land subsidies for plant setup
- Trade facilitation support by SEDA to ease procedures for exports

Note: GT = Gas turbine  
 Source: EMIS; Market Research Future; Team analysis

# Potential gas turbine spare parts localized categories

Non-exhaustive

## Filters



- Air intake and lube oil filters
- Replaced regularly to prevent debris or contaminants from entering the system

## Combustion system



- Fuel nozzles, igniters, and combustion liners
- Inspected regularly to ensure proper fuel combustion

## Turbine blades

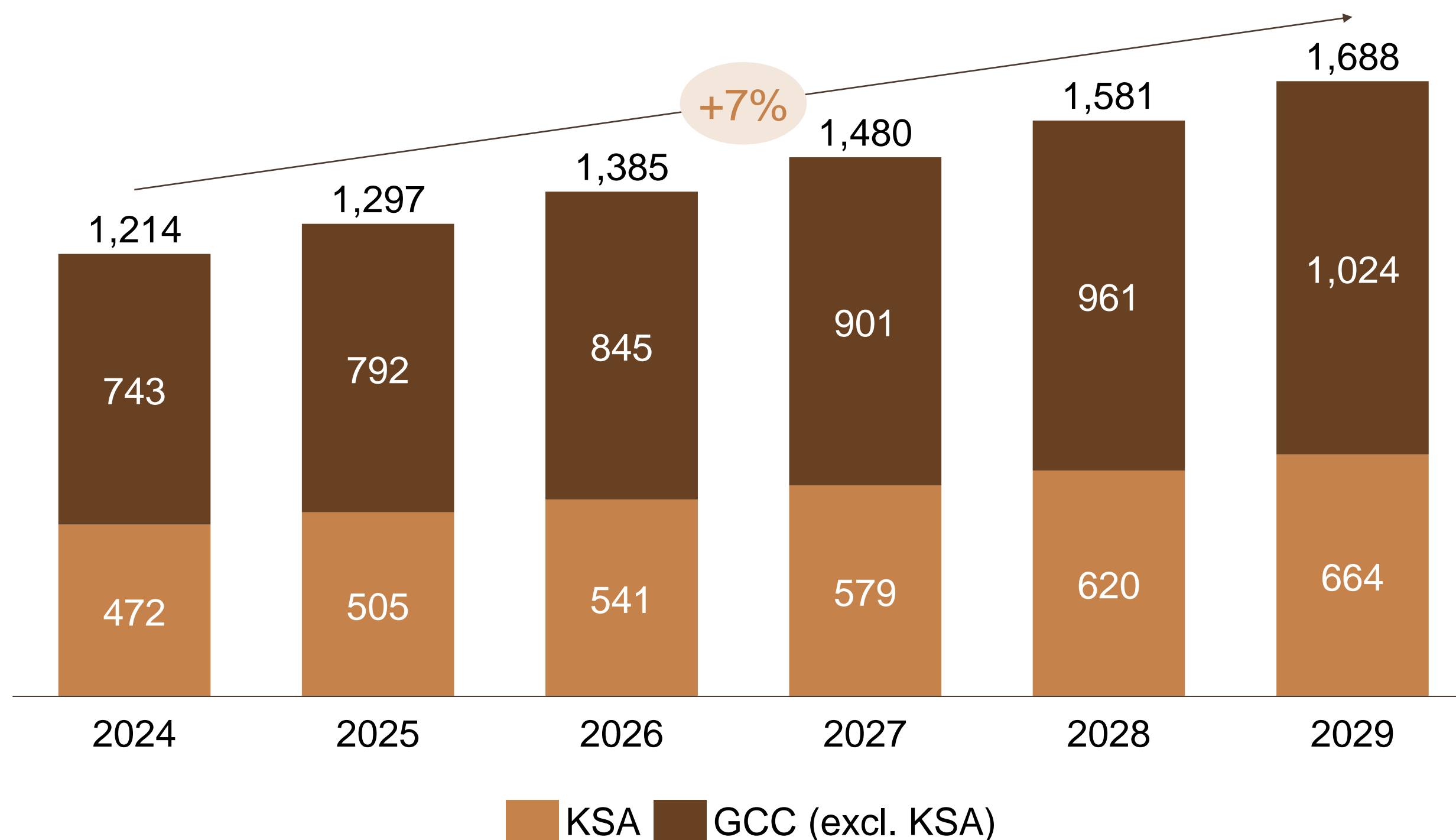


- Inspected regularly to prevent fouling or erosion, which can lead to reduced efficiency or even failure

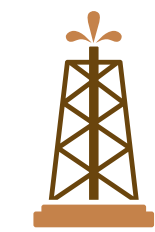
### Applications

# Gas turbine spare parts demand, customers, and drivers

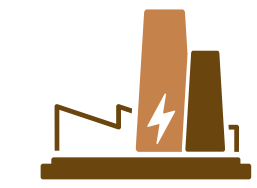
Forecasted KSA and rest of GCC gas turbine spare parts market 2024-2029 (\$MM)



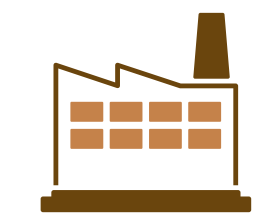
## Typical GT spare parts customers in KSA



Oil & gas sector



Power generation providers



Industrial manufacturing companies

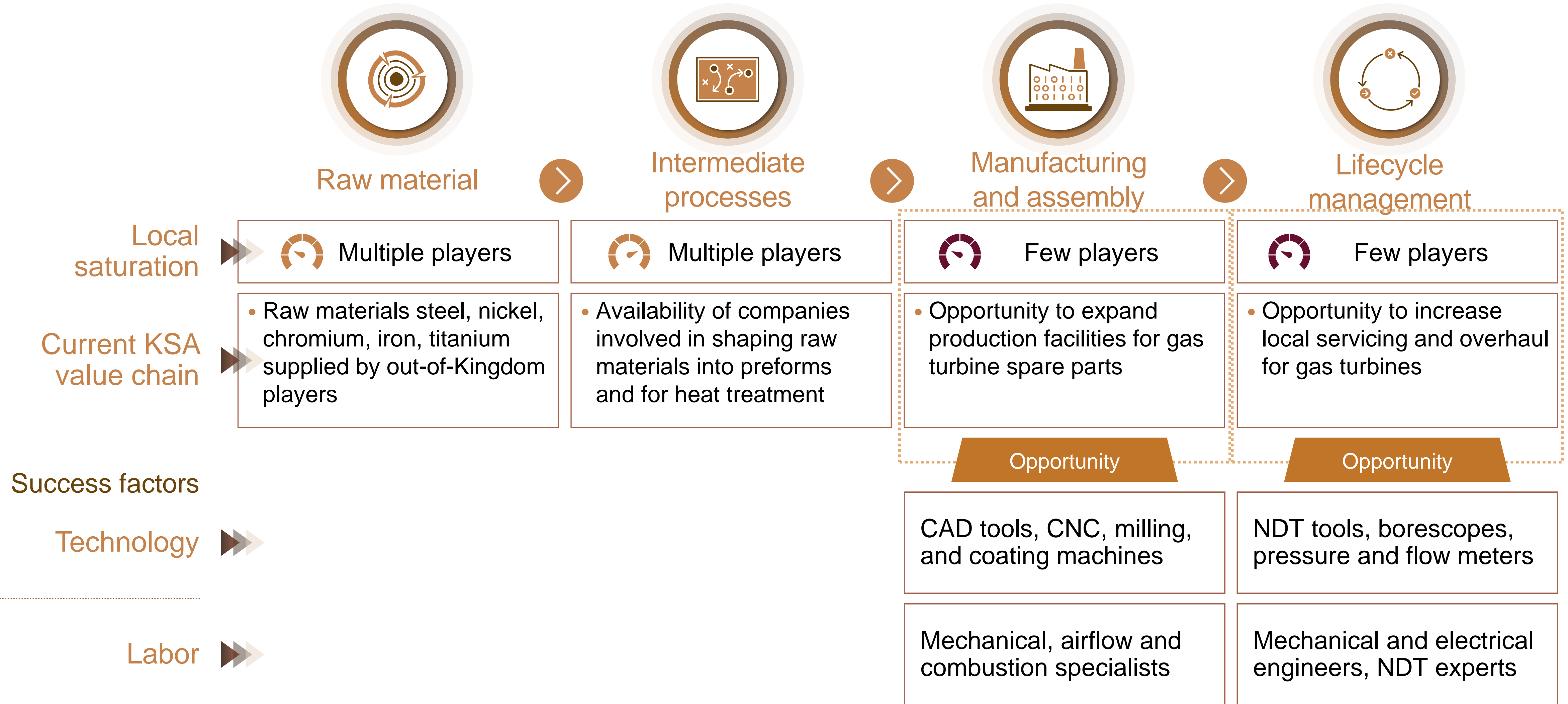
## Key KSA demand drivers

- **Industry expansion:** Projects like Master Gas System Phase 3 need reliable gas turbines to ensure gas distribution across KSA, driving the need for retrofitting
- **Electricity demand:** Increased power generation capacities incl. gas turbines are required to cater for the higher electricity consumption driven by population growth and rapid industrialization

### Catalyzing Supply Chains

Note: GT = Gas turbine  
Source: EMIS; Market Research Future; Team analysis

# Value chain and key localization opportunities



**Catalyzing Supply Chains**

Note: Lifecycle management including all post-production services, including installation; CAD = Computer-Aided Design; CNC = Computer numerical control; NDT = Non-destructive testing  
Source: Team analysis

# Investment opportunity and enablers

## Key enablers in KSA to drive success<sup>1</sup>



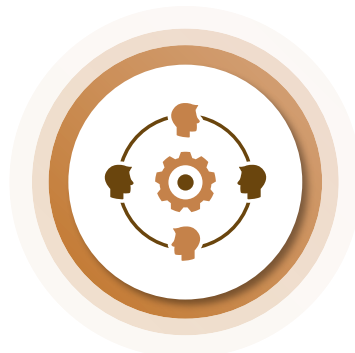
**Financial enablers:** SIDF provides CAPEX loans for specialized equipment procurement and local manufacturing setup



**Land access:** Subsidized land for plant setup across industrial zones under MODON, Royal Commission for Jubail and Yanbu, etc.



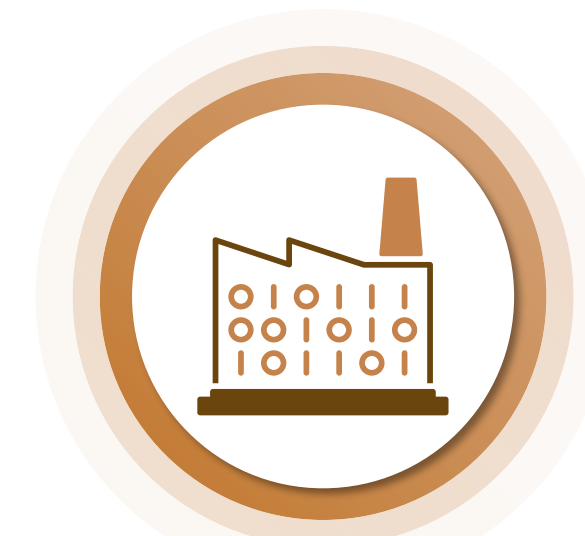
**Export enabler:** Financing, insurance, and trade facilitation support from SEDA to ease procedural hurdles for spare parts exporters



**Quality certification funding:** Funding by SIDF to obtain necessary certifications to meet industry standards for gas turbines

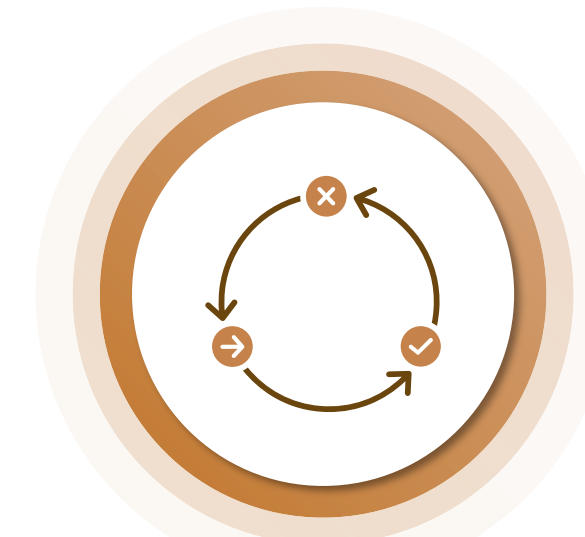


## Where is the opportunity



Manufacturing

Opportunity to expand production facilities for gas turbine spare parts



Lifecycle management

Opportunity to increase local servicing and overhaul for gas turbines

### Catalyzing Supply Chains

1. Detailed list of all enablers in the backup

Note: SIDF = Saudi Industrial Development Fund; MODON = Authority for Industrial Cities and Technology Zones; SEDA = Saudi Export Development Authority

Source: Team analysis

**Thank  
You**