Capturing Opportunities & Winning Business with Saudi Aramco and its Suppliers
Key Points

• Immediate Opportunities for Materials
  • Materials with no or few local suppliers
  • Increasing capability – removing limitations

• Collaboration - Saudi Aramco and its supply chain will drive new business

• Doing Business - be competitive

• Over SAR 1 trillion in spend over the next 10 years will create opportunity

iktva is imperative for doing business with Saudi Aramco

Competitive Cost

Environment

Quality

Safety

Schedule
Agenda

1. Immediate Opportunities
2. IK Participation Limitations
3. How to Win Business
4. Saudi Aramco 10-Year Demand Forecast
Saudi Aramco Suppliers Classification

Manufacturer
- An entity that owns and produces materials

Service Provider (Contractor)
- An entity that provides any type of service (engineering, landscaping, construction, training ..)

Agent
- A representative of an entity (or more) that owns and produces materials
SR 22.5 B Historical Spend Sample

Global Historical Spend Distribution

- Mat. Spend with 1-2 IK MFR: 23%
- Mat. Spend with IK MFR Only: 2%
- Mat. Spend with OOK MFR Only: 29%
- Mat. Spend With 3+ IK MFR (OOK spend): 32%
- Mat. Spend With 3+ IK MFR (IK spend): 14%

Areas of Immediate Opportunity:
- Materials sourced OOK only
- Materials with 1-2 IK MFRs

For further development:
- Materials with 3+ IK MFRs but limited in capacity and capability

Note: Sample of historical spend: Average of 6 years
Material Spend with No Local Manufacturers

Global Historical Spend Distribution

- Mat. Spend with 1-2 IK MFR: 23%
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Average Annual Spend SR 22.5 Billion

Areas of Immediate Opportunity:
- Materials sourced OOK only

Note: Sample of historical Spend: Average of 6 years
Materials Currently Sourced OOK Only – Drilling Equipment

Downhole Equipment
- LINER HANGERS: SR 364 MM
- PACKERS: SR 347 MM
- INSTALLATION SERVICES: SR 181 MM
- VALVE: SUB-SURFACE SAFETY: SR 80 MM
- ISOLATION VALVES & ACCESSORIES: SR 75 MM
- NIPPLE: LANDING: SR 33 MM
- LATERALS & ACCESSORIES EQUIPMENT: SR 19 MM

Advanced Well Completion
- EQUALIZER/SCREENS ACCESS: SR 270 MM
- SMART, ACCESSORIES: SR 140 MM
- GAUGES: SR 53 MM
- EXPANDABLE, CASING & ACCESSORIES: SR 41 MM
- DOWNEHOLE WET CONNECT SYSTEM: SR 26 MM
- CABLE, MONITORING SYSTEM, PDHMS, ACCESSORIES: SR 24 MM
- COUPLING PROTECTOR: SR 8 MM
- EXPANDABLE, SCREEN: SR 7 MM

Drilling: SR 1,212 MM
Chemicals: SR 872 MM
Piping Sys.: SR 455 MM
Rotating: SR 434 MM
E&I: SR 239 MM
Static: SR 227 MM
Medical: SR 159 MM
Computers: SR 135 MM
Industrial Services: SR 98 MM
Communication: SR 90 MM
Environmental: SR 84 MM
Gen Sup & Bldg.: SR 59 MM
Community: SR 44 MM
Safety & Security: SR 16 MM
Office Supplies: SR 7 MM
Air Conditioning: SR 7 MM

Note: Sample of historical spend: Average of 6 years

Adv Well Comp Eqpt 29%
Downhole Equipment 55%
Csg Acc & Cement Eqp 11%
Materials Currently Sourced OOK Only – Chemicals

<table>
<thead>
<tr>
<th>Category</th>
<th>Spend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drilling</td>
<td>SR 2,006 MM</td>
</tr>
<tr>
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<td>Office Supplies</td>
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<td>Air Conditioning</td>
<td>SR 7 MM</td>
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Note: Sample of historical spend: Average of 6 years

General Drilling Chem.

<table>
<thead>
<tr>
<th>Chemical</th>
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<tbody>
<tr>
<td>SALTS</td>
<td>SR 426 MM</td>
</tr>
<tr>
<td>LUBRICANTS</td>
<td>SR 111 MM</td>
</tr>
<tr>
<td>H2S SCAVENGER</td>
<td>SR 98 MM</td>
</tr>
<tr>
<td>SHALE/BOREHOLE STABILIZER</td>
<td>SR 50 MM</td>
</tr>
<tr>
<td>SPOTTING FLUID</td>
<td>SR 22 MM</td>
</tr>
<tr>
<td>THINNER</td>
<td>SR 16 MM</td>
</tr>
<tr>
<td>EMULSIFIERS &amp; SURFACTANTS</td>
<td>SR 9 MM</td>
</tr>
<tr>
<td>OXYGEN SCAVENGER</td>
<td>SR 8 MM</td>
</tr>
<tr>
<td>DEFOAMER</td>
<td>SR 6 MM</td>
</tr>
</tbody>
</table>

Drill Fluids-Mud: 29%
Well Stimulant Agents: 6%
Drill Chem-General: 62%
Materials Currently Sourced OOK Only – Piping System

Note: Sample of historical spend: Average of 6 years
Materials Currently Sourced OOK Only – Rotating Equipment

- **Drilling**: SR 2,006 MM
- **Chemicals**: SR 1,212 MM
- **Piping Sys.**: SR 872 MM
- **Rotating**: SR 455 MM
- **E&I**: SR 434 MM
- **Static**: SR 239 MM
- **Medical**: SR 227 MM
- **Computers**: SR 159 MM
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- **Community**: SR 59 MM
- **Safety & Security**: SR 44 MM
- **Office Supplies**: SR 16 MM
- **Air Conditioning**: SR 7 MM

Note: Sample of historical spend: Average of 6 years

**Compressors**
- COMPRESSOR; AIR; CENTRIFUGAL: SR 34 MM
- COMPRESSOR; DRY-SCREW: SR 7 MM
- COMPRESSOR; RECIPROCATING: SR 29 MM

**Pumps**
- PUMP; CENTRIFUGAL: SR 11 MM
- PUMP; RECIPROCATING: SR 6 MM
- PUMP; VACUUM; API 681: SR 7 MM

Spares, Gas Turbines: 19%
Comprsr. Utility Air: 11%
Comprsr. Recip.: 7%
Pump Centrifug.: 6%
Comprsr. Centrifug.: 52%
Materials Currently Sourced OOK Only – Electrical & Instrumentation

Drilling: SR 2,006 MM
Chemicals: SR 1,212 MM
Piping Sys.: SR 872 MM
Rotating: SR 455 MM
E&I: SR 434 MM
Static: SR 239 MM
Medical: SR 227 MM
Computers: SR 159 MM
Industrial Services: SR 135 MM
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Environmental: SR 90 MM
Gen Sup & Bldg. : SR 84 MM
Community: SR 59 MM
Safety & Security: SR 44 MM
Office Supplies: SR 16 MM
Air Conditioning: SR 7 MM

Note: Sample of historical spend: Average of 6 years

- Cable, Power
  - SUBMARINE, 69 KV-230 KV: SR 65 MM
- Switchgear
  - BUS; ISOATED PHASE BUS DUCT: SR 10 MM
  - SWITCHGEAR: SF6, 2 KV: SR 6 MM
  - SWITCHGEAR: SF6, 115 KV: SR 41 MM
- Valves Relief
  - DISC, RUPTURE ASSEMBLY: SR 59 MM

Flow Instrumentation 7%
Control Devices 5%
Control Panel, ESD 4%
Switchgear, HV 6%
UPS 8%
Valves Relief 14%
Switchgear 13%
Cable, Power 20%
Material Spend with 1-2 Local Manufacturers

Global Historical Spend Distribution

- Mat. Spend with 1-2 IK MFR ( Ook MFR Only 2%)
- Mat. Spend with OOK MFR Only 29%
- Mat. Spend with 1-2 IK MFR 23%
- Mat. Spend With 3+ IK MFR (Ook spend) 32%
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Areas of Immediate Opportunity:
- Materials with 1-2 IK MFRs

Note: Sample of historical spend: Average of 6 years
1-2 Local Manufacturer Historical Spend – Drilling Equipment

Note: Sample of historical spend: Average of 6 years
1-2 Local Manufacturer Historical Spend – Piping System

Note: Sample of historical spend: Average of 6 years
1-2 Local Manufacturer Historical Spend – Chemicals

Note: Sample of historical spend: Average of 6 years
1-2 Local Manufacturer Historical Spend – Electrical & Instrumentation Equipment

Note: Sample of historical spend: Average of 6 years
Material spend with 3+ Local Manufacturers

Global Historical Spend Distribution

Average Annual Spend
SR 22.5 Billion

Mat. Spend with
1-2 IK MFR
23%

Mat. Spend with
3+ IK MFR (OOK spend)
32%

Mat. Spend With
3+ IK MFR (IK spend)
14%

Mat. Spend with
29%

Note: Sample of historical spend: Average of 6 years

For further development:

▲ Materials with 3+ IK MFRs but limited in capacity and capability
1. Immediate Opportunities
2. IK Participation Limitations
3. How to Win Business
4. Saudi Aramco 10-Year Demand Forecast
Material Limitations Definition

Limitations are specific restrictions that limit the level of approval for a supplier against a certain material.

The limitations are decided based upon the final result of the technical evaluation of each facility.

Limitations could be on many aspects:

- Metallurgy
- Model type
- Size
- Thickness
- Engineering
### Rotating Equipment

#### Common Limitations

- Design capability
- Full machining capability
- Range of sizes
- Packaging
- Metallurgy
- Only assembly
- Lack of spare parts manufacturing
- Limited applications

### Sample Workbook

<table>
<thead>
<tr>
<th>Manufacturer Name</th>
<th>Current Situation</th>
<th>Future Situation (2021)</th>
<th>Enablers</th>
</tr>
</thead>
</table>
|                   | 9COMs with limitations: 
- 60000XXXXX: RE-ENGINEERED PUMP IMPELLER AND CASING: Approved for casing parts from bronze, grey cast iron, ductile cast iron, and stainless steel only. 
- 600000XXXX: PUMP; SUBMERSIBLE/31-SAMSS-10/ABOVE 75 KW, Not approved for fire water service pumps. | 1. Different types of metallurgy: Low alloy steel, carbon steel, duplex stainless steel. 
2. Different applications. 
3. Spare parts manufacturing. | 1. ES to work with supplier in developing capabilities to add 9COMs. 
2. Supplier must be willing to expand skillset, add 9COMs and ensure quality standards. 
3. Form a cooperative team between Saudi Aramco and the supplier to move forward. |

<table>
<thead>
<tr>
<th>Manufacturer Team</th>
<th>Aramco Team</th>
<th>Manufacturer Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>Representative</td>
<td>Unit</td>
</tr>
</tbody>
</table>
Static Equipment

Common Limitations

- Thermal design
- Mechanical design
- Assembly & Welding
- Wall thickness
- Engineering design
- Fabrication only
- Size
- Metallurgy
- Pressure ratings

### Sample Workbook

<table>
<thead>
<tr>
<th>Manufacturer Name</th>
<th>10 Years Forecast</th>
<th>SR 87 B</th>
<th>Initiative Lead</th>
<th>Local Business Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Situation</strong></td>
<td><strong>Future Situation (2021)</strong></td>
<td>Enablers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>600000XXXX: TANK; SHOP FABRICATED. 1) Only carbon steel 2) Diameter up to 10 feet. 3) Excluding dome roofs. 4) Excluding external and internal floating roofs.</td>
<td>1. Different types of metallurgy. 2. Flexible and dome roofs 3. Various sizes and pressure</td>
<td>1. ES to work with supplier in developing capabilities to add 9COMs. 2. Supplier must be willing to expand skillset, add 9COMs and ensure quality standards. 3. Form a cooperative team between Saudi Aramco and the supplier to move forward.</td>
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Manufacturer Notes
Electrical & Instrumentation Equipment

Common Limitations

- Size
- Design
- Type
- Pressure rating
- Assembly only
- Specific model
- Power limitations
- Spare parts

Sample Workbook

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<td></td>
</tr>
<tr>
<td>600000XXXX: TRANSMITTER; PRESSURE: limited to manufacture up to 4000 psi.</td>
<td>1. Different types of metallurgy.</td>
<td>1. ES to work with supplier in developing capabilities to add 9COMs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>600000XXXX: CONTROL VALVE FOR SEVERE SERVICE: limited to manufacture up to 24&quot;. 600000XXXX: VALVE; GLOBE; CONTROL; INCLUDING ACTUATOR</td>
<td>2. Not allowed to supply control valves in fire-hazardous zone services as defined in SAES-B-XXXX or specified as &quot;fire-safe&quot;.</td>
<td>2. Supplier must be willing to expand skillset, add 9COMs and ensure quality standards.</td>
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Pipe & Pipe Fittings Equipment

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<td>Current Situation</td>
<td>Future Situation (2021)</td>
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<td></td>
</tr>
<tr>
<td>600000XXXX: ELBOW; PIPE; BW; CS; 02-SAMSS-005: Size: 1&quot; to 12&quot;, Thickness: For 10&quot; and below, maximum is Sch-XS, with the following exception: 4&quot;: up Sch-120 (11.13mm) &amp; 6&quot;: up to 12.7 mm, For 12&quot;, maximum is sch-80. Radius: long radius only. Material: low alloy steel only</td>
<td>1. Different types of metallurgy. 2. Cladding 3. Different sizes 4. Coating</td>
<td>1. ES to work with supplier in developing capabilities to add 9COMs. 2. Supplier must be willing to expand skillset, add 9COMs and ensure quality standards. 3. Form a cooperative team between Saudi Aramco and the supplier to move forward.</td>
<td></td>
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<tr>
<td>600000XXXX: PIPE; STEEL API 5L; SAW STRAIGHT; SOUR: 16 inch to 62 inch OD size and maximum of 1 inch wall thickness.</td>
<td></td>
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Manufacturer Notes

Discussion points and suggestions
Agenda

1. Immediate Opportunities
2. IK Participation Limitations
3. How to Win Business
4. Saudi Aramco 10-Year Demand Forecast
Doing Business with Suppliers

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iktva is imperative for doing business with Saudi Aramco

Competitive Cost

Environment

Quality

Safety

Schedule
We Recently Determined a Number of Reasons Why Several IK Bidders Lost Opportunities

Key Findings

- **Significant Pricing Difference with OOK MFRs**
  - Raw material
  - Specialist Labor
  - Order quantities were uneconomical

- **Tier 1 bidding practices**
  - Bid Invitation
  - Bundling of orders
  - Lack of Feedback
  - No Price Negotiation

### Average Price Difference 2016*

- Pipe Fittings: 40%
- Structural Steel: 38%
- Heat Transfer Equip: 36%
- Pumps: 35%
- Pipe Cladding: 34%
- Vessels: 25%
- Valves: 24%
- Electrical: 20%
- Gen Sup & Bldg. Mat.: 18%
- Instrumentation: 14%

*Sample size 60 Tier-1 RFQs
Done Business with Suppliers

iktva

iktva is imperative for doing business with Saudi Aramco

- Competitive Cost
- Quality
- Schedule
- Environment
- Safety
Previous quality major issues discovered during manufacturing phases:

- Deviations from Technical Requirements and PO Requirements.
- Workmanship Issues.
- Design Deficiency and Integrity.
- Falsification of Records.
- Substandard Material Use.
- Improper Preservation.
Quality - Deviations from Technical and PO Requirements

CASE:
Plate HIC (Hydrogen-Induced Cracking) not conducted on the thinnest plate when two thickness plates produced from the same heat which is considered a deviation to Saudi Aramco technical requirements 01-SAMSS-016.
CASE:
Manufacturer have shipped several valves with major quality defects, such as cracks, pin holes and paint issues. All these defects can be easily discovered through visual inspection conducted by qualified inspectors.
CASE:
The vendor has supplied Saudi Aramco with 2" diameter stainless steel check valves that do not have enough clearance between the back side of the flange and the hinged section of the valve's body. This will not allow the installation/insertion of a standard nut of the corresponding stud bolt.
Quality - Falsification of Records

CASE:
The vendor has falsified the WPS/PQR (Welding Qualification Procedures) to grant Saudi Aramco approval without conducting actual tests.
CASE:
Several cases reported of utilization substandard material that resulted in material failures and fractures.
CASE:
During receiving inspection, it was found that several boiler parts were severally corroded as they were shipped without compliance with preservation requirements.
How to Win Business with Saudi Aramco and it’s Tier 1 Suppliers Summary

IKTVA Program

- Saudi Aramco is committed to driving local industrial development with the IKTVA program.
- Tier 1 companies have agreed to IKTVA targets over the next 5 years that will drive their procurement favoring IK suppliers.

Saudi Aramco

Tier 1

Tier 2

- Start working on your IKTVA baseline and 5-year IKTVA action plan.
- Develop training for cost estimators and engineers on how to deliver globally competitive value.
- Remove/improve limitations on your currently approved materials.
- Consider new sourcing strategies (buying consortium for key materials that can be bought in bulk).
- Minimize rework due to quality issues.
- Work on improving production scheduling.
- Safety Zero Tolerance Policy - violations will result in banning individuals/vehicles/delivery trucks from entering Saudi Aramco facilities.
- Adhere to the Saudi Aramco Code of Conduct.
Agenda

1. Immediate Opportunities
2. IK Participation Limitations
3. How to Win Business
4. Saudi Aramco 10-Year Demand Forecast
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Capital Program 10-Year Forecast = SR140 Billion / Year

10-Year Capital Program Forecast

- Maintain Potential: 14%
- Process Facilities: 12%
- Infrastructure: 7%
- Pipeline: 3%
- Other: 4%
- Unconventional Resources: 8%
- Drilling: 52%

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Drilling Materials Spend Forecast 2017-2026

### Quantity Examples

- **ICDS & ICD-screens**: 1.2 million units
- **Trees**: 13,900 units
- **Casing heads**: 14,000 units
- **Hanger assemblies**: 33,000 units
- **Cement**: 6.8 million tons
- **Mud Products (liquid)**: 636 million gallons

### Percentage of Total Material Spend

- **Other**: 27%
- **ICDS & ICD-screens**: 14%
- **OCTG - API & Semi Premium**: 14%
- **Additives**: 2%
- **Weighting Materials**: 3%
- **Stabilizers**: 3%
- **Mud Products**: 3%
- **SPOOL ASSY**: 4%
- **ISOLATION PACKERS**: 4%
- **TREASSY**: 5%
- **Workover/Completion Products**: 5%
- **Circulation Products**: 6%
- **Other**: 10%

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Rigs Oper. and Well Services Forecast (2017 – 2026)
Total = SR 439 B

Rig Drilling Ops Services = SR 197 B

Well Services Total Spend
SR 242 B

Drilling Equipment Rental 9%
Monitoring & Testing 9%
Logging 9%
Roads & Locations 5%
Operations & Completion Services 11%
Technical Services 22%
Directional Drilling 27%
Perforating
Cementing / Pumping Services, 4%
Casing / Tubing & Handling, 4%

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Surface Facilities Forecast (2017 – 2026)

10-Year Capital Program Forecast

- Unconventional Resources: 8%
- Pipeline: 3%
- Infrastructure: 7%
- Process Facilities: 12%
- Maintain Potential: 14%
- Other: 4%
- Drilling: 52%

Surface Facilities (SR~500 Billion)

- Maintain Potential: SR151B
- Gas Facilities: SR95B
- Refinery & Petrochem: SR94B
- Infrastructure: SR81B
- Other: SR61B
- Pipeline: SR40B
- Oil Facilities: SR37B
- Power: SR8B
- Renewables: SR4B

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Examples of Surface Facilities Materials Forecast (2017-2026)

- **Surface Facilities Materials**
  - SR196 Billion

- **Surface Facilities Construction Services**
  - SR240 Billion

## Materials Forecast
- **PROCESS VESSELS CS** - 6,000 UNITS
- **CARBON STEEL PIPING** - 23 MILLION TONS
- **HEAT EXCHANGERS** - 3,500 UNITS
- **SS FITTINGS & VALVES** - 6 MILLION UNITS
- **CS FITTINGS & VALVES** - 19 MILLION UNITS
- **FIELD INSTR, ANALYZERS, GAGES** - 70,000 UNITS
- **CONTROL VALVES** - 90,000 UNITS
- **STRUCTURAL STEEL** - 650,000 TONS
- **CONCRETE** - 24 MILLION M³
- **PROCESS VESSELS SS** - 620 UNITS
- **STAINLESS STEEL PIPING (SS314/316)** - 137,000...
- **COMPRESSORS** - 500 UNITS
- **AIR COOLERS** - 500 UNITS
- **STORAGE TANKS** - 1,000 UNITS
- **LOW VOLTAGE CABLING** - 56,000 KM
- **PUMPS CS** - 3,500 UNITS
- **BOILER PLANT EQUIP** - 160 UNITS

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Examples of Surface Facilities Materials Forecast (2017-2026) - CS Fittings & Valves

- PROCESS VESSELS CS - 6,000 UNITS
- CARBON STEEL PIPING - 23 MILLION TONS
- HEAT EXCHANGERS - 3,500 UNITS
- SS FITTINGS & VALVES - 6 MILLION UNITS
- CS FITTINGS & VALVES - 19 MILLION UNITS
- FIELD INSTR, ANALYZERS, GAGES - 70,000 UNITS
- CONTROL VALVES - 90,000 UNITS
- STRUCTURAL STEEL - 650,000 TONS
- CONCRETE - 24 MILLION M3
- PROCESS VESSELS SS - 620 UNITS
- STAINLESS STEEL PIPING (SS314/316) - 137,000...
- COMPRESSORS - 500 UNITS
- AIR COOLERS - 500 UNITS
- STORAGE TANKS - 1,000 UNITS
- LOW VOLTAGE CABLING - 56,000 KM
- PUMPS CS - 3,500 UNITS
- BOILER PLANT EQUIP - 160 UNITS

Examples of Surface Facilities Materials Forecast (2017-2026) - CS Fittings & Valves

- Ball valves 0.36 MM valves 2%
- Check Valve 0.17 MM valves, 1%
- Gate Valves 2.0 MM valves, 10%

Pipe Fitting, CS, 16.6 MM fittings, 87%

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Examples of Surface Facilities Materials Forecast (2017-2026) - Ball Valves

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**Examples Required Workforce Skills (2017-2026)**

**DRILLING AVERAGE MANPOWER/YEAR**

<table>
<thead>
<tr>
<th>Skill Level Examples</th>
<th>Total MP Peak = 69,000 Direct Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineers**</td>
<td>9203</td>
</tr>
<tr>
<td>Rough necks / rig hand</td>
<td>8663</td>
</tr>
<tr>
<td>Construction crew</td>
<td>4632</td>
</tr>
<tr>
<td>Admin</td>
<td>4181</td>
</tr>
<tr>
<td>Operators (Wireline, Rig &amp; Pump)</td>
<td>4066</td>
</tr>
<tr>
<td>Truck Driver</td>
<td>4050</td>
</tr>
<tr>
<td>Roustabout &amp; Floormen</td>
<td>3784</td>
</tr>
<tr>
<td>Logistics</td>
<td>3337</td>
</tr>
<tr>
<td>Mechanic</td>
<td>3133</td>
</tr>
<tr>
<td>Project management</td>
<td>2701</td>
</tr>
<tr>
<td>Crane Operator</td>
<td>2508</td>
</tr>
<tr>
<td>Driller</td>
<td>2249</td>
</tr>
<tr>
<td>Fracking / cement technician</td>
<td>2169</td>
</tr>
<tr>
<td>Electrician</td>
<td>2093</td>
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<tr>
<td>Logging</td>
<td>1751</td>
</tr>
<tr>
<td>Geophysicist/Geologist</td>
<td>1372</td>
</tr>
<tr>
<td>Welder</td>
<td>1328</td>
</tr>
<tr>
<td>Rig technicians</td>
<td>1258</td>
</tr>
<tr>
<td>Heavy Equipment operators</td>
<td>1231</td>
</tr>
<tr>
<td>Mobilization/ demobilization</td>
<td>1220</td>
</tr>
<tr>
<td>Mud logger</td>
<td>1080</td>
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<tr>
<td>Derrick man</td>
<td>1058</td>
</tr>
<tr>
<td>Offshore Supply Vessels Seamen</td>
<td>992</td>
</tr>
<tr>
<td>Superintendent</td>
<td>632</td>
</tr>
</tbody>
</table>

**PROCESS FACILITIES AVERAGE MANPOWER/YEAR**

<table>
<thead>
<tr>
<th>Skill Level Examples</th>
<th>Total MP Peak = 270,000 Direct Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipefitter</td>
<td>42,000</td>
</tr>
<tr>
<td>Laborer</td>
<td>29,200</td>
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<tr>
<td>Welder</td>
<td>19,100</td>
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<tr>
<td>QA/ QC</td>
<td>12,500</td>
</tr>
<tr>
<td>Foreman</td>
<td>11,800</td>
</tr>
<tr>
<td>Professional Equipment Operator (Light-Heavy)</td>
<td>11,500</td>
</tr>
<tr>
<td>Craft Helper</td>
<td>9,800</td>
</tr>
<tr>
<td>Electrician (line, wiring, cable...)</td>
<td>9,100</td>
</tr>
<tr>
<td>Vehicle Driver (Light-Heavy)</td>
<td>8,800</td>
</tr>
<tr>
<td>Rigger</td>
<td>5,900</td>
</tr>
<tr>
<td>Carpenter</td>
<td>5,800</td>
</tr>
<tr>
<td>Painter</td>
<td>4,400</td>
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<tr>
<td>Iron Worker - Rebar</td>
<td>4,300</td>
</tr>
<tr>
<td>Millwright</td>
<td>4,300</td>
</tr>
<tr>
<td>Cement Finisher / Mason</td>
<td>3,500</td>
</tr>
<tr>
<td>Instrument Fitter / technician</td>
<td>2,900</td>
</tr>
<tr>
<td>Insulator</td>
<td>2,100</td>
</tr>
<tr>
<td></td>
<td>1,100</td>
</tr>
<tr>
<td></td>
<td>1,000</td>
</tr>
</tbody>
</table>

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Key Points

• Immediate opportunities for materials
  • Materials with no or few local suppliers
  • Increasing capability – removing limitations

• Collaboration - Saudi Aramco and its supply chain will drive new business

• Doing Business - be competitive

• Over SR 1 trillion in spend over the next 10 years = opportunity
## Saudi Aramco Contact details

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SSC@aramco.com |
|---|---|---|
| New local businesses, market information | Local Business Development Unit | Imran Hariri  
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| General Inquiries | Supplier Help Desk | Tel.: 874-2222  
SupplierHelpDesk@aramco.com |
Thank you