

Business Opportunities
in the Oil and Gas Industry

In-Country Value

5 June 2014, Sultanate of Oman



الفرص الاستثمارية في
قطاع النفط والغاز

القيمة المحلية المضافة

5 يونيو 2014، سلطنة عمان



Localize pigging technology and pipe inspection service

Presented by:



June 5th, 2014



Meeting agenda



1. Purpose of this workshop
2. Context and background
3. Scope of the opportunity
4. Industry Data
5. ICV creation through the opportunity
6. Specifications
7. Q&A session



Purpose of this workshop

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- To share the scope of one of the priority opportunities with the business community
- To register interest of the business community
- To set an initial dialogue between the oil and gas industry and business community
- To exchange ICV development best practices
- This workshop is NOT an contractual commitment with any business entity

Next steps

- Business community to register interest by reaching the presenter or the PMO
- Oil and gas industry to reach registered parties for follow-up dialogue and implementation

More information on the ICV blueprint or on other opportunities could be found in the brochure and catalogue distributed today or by visiting www.incountrypvalueoman.net

Context and Background

- The Oil and Gas Industry operate more than 8,000km of piggable pipelines. With annual inspection scope of approx. 1500km/year.
- Both High Resolution Magnetic Flux Leakage and Ultrasonic Techniques are used





Context and Background

- Local companies can attract international IP vendors (JV) to set up their IP service center for:
 - 1) Workshop for tools preparation and calibration for inspection.
 - 2) Raw data analysis, interpretation & integrity assessment
 - 3) Inspection tools developments in-line with emerging technology of inspection techniques.
 - 4) Trouble shooting for pipeline inspection issues (piggable & non piggable)
 - 5) IP data verification & follow up on tool accuracy & update on final inspection data.



Context and Background

Example of IP vendors:

- 3P Services GmbH & Co KG
- Baker Hughes PMG
- BJ Pipeline Inspection Services
- General Electric Oil and Gas (GE-PII)
- NDT Systems & Services
- PipeWay
- Romstar
- Linscan
- Rosen
- T. D. Williamson
- Weatherford
- A.Hak Industrial Services B.V.
- Applus RTD

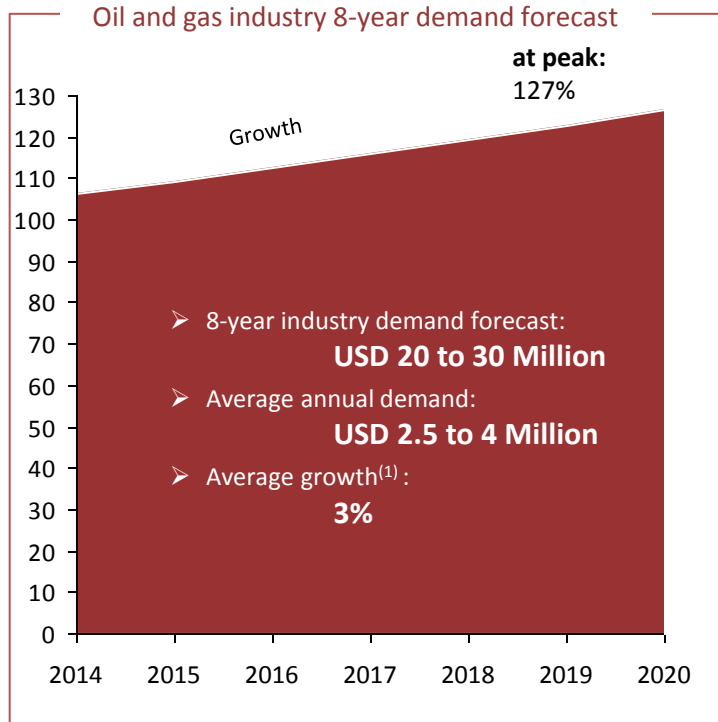


Scope of the opportunity

1. Job opportunities for skills labors (Omani Engineers):
 - a) Tools set up, inspection preparation, & calibrations.
 - b) Tool design to meet pipeline operation conditions.
 - c) Row data analysis.
 - d) inspection data assessment
 - e) IP data verifications.
- 2) Job opportunities for non-skills labors:
 - a) Transportation.
 - b) lifting
 - c) Helpers on IP workshop/tool set up & logistics.
- 3) Using local market products, logistics, facilities, workshops.
- 4) Technical know-how within the country
- 5) Opportunities to sub-contract non specialized activities for local companies.

Industry demand data & ICV creation

Industry demand data was the main trigger for the development of the opportunity



Potential ICV related to the opportunity*

8 – 10 M

Feasibility of implementation

Medium

Potential job creation related to the opportunity

59 – 67 Jobs

Impact

- In addition to the oil and gas industry, pigging service is required for domestic water systems, sanitary sewer, agriculture Irrigation pipelines, mine tailings pipelines, dedicated fire suppression systems, and various wastewater treatment plant pipelines
- Technicians and engineers are required to perform field and data analysis services
- Develop pigging locally would attract high technology industry to the country

Feasibility

- Technology required for manufacturing is high and the establishment of pigging business will require the expertise of international partners
- Demand is considerable and can justify the investment
- Human resources require knowledge development which could be achieved through overseas training

(1) CAGR: compound annual growth rate

Specifications



PDO follows the International Standards related to the **IP for pipeline inspection service**. However, since PDO is part of The Shell International Operating Unit, Shell has developed its own standards (DEPs) due to several reasons including different Governments legislations. In addition to the above, PDO has supplemented these DEPs with own Internal Specifications (SP) to meet the high ambient temperature and sour conditions.

- **Compliance with International Standards**
- **Compliance with SHELL – DEPs**
- **Compliance with a PDO Specifications**

Please make use of the additional related information that is available with the four entities



Four booths outside of the workshop rooms:

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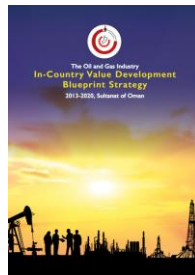


Materials and follow-up

For more information:



Website



Brochure



Catalogue of opportunities

For follow-up:

Register interest by contacting the PMO on: www.incountryvalueoman.net

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Thank you for your contribution!

Our mission:

***Developing a competitive and sustainable local supply
market... Together!***