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April 2016

* Note 1

Looking forward with Fast4Word – offering a generic design compatible with different types of mooring systems and topsides, to revolutionize the FPSO industry.

Meeting scheduled delivery dates is a key success factor. The graph below (A) demonstrates SBM Offshore’s performance record for on-target and on-performance deliveries versus Industry performance (graph B).

SBM Offshore’s performance measures well on all axes:
- Less cost growth
- Less schedule slip
- Fewer prolonged shutdowns in 1st year
- Better production attainment (months 7-12)

Source: Independent Project Analysis, Inc (IPA)

Graph A
Graph B

SBM OFFSHORE

Source: SBM Offshore

- Standardized multi-purpose new build hull - Decreased risk and cost
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- More ground works & less confined space works - Better safety

SOLUTION and ADVANTAGE

(1) Data for the SBM Offshore study – illustrated in Graph A - was based on all SBM FPSO projects during the time period 2008-2014.

The above information and graphic is taken from ‘Great Expectations, a story about FPSO project performance’, Independent Project Analysis, Inc. Used by permission.

SBM FPSOS DELIVERED AND PRODUCING FROM 2008 – 2014

Source: SBM Offshore
Success for SBM Offshore is when our clients meet their goals. Our competitive technical and commercial solutions, our delivery track record, operational excellence and production uptime for all our FPSOs demonstrated it.

Since our first FPSO operations for Shell in 1976, SBM Offshore has executed over 30 FPSO projects worldwide. (*see Note 1)

SBM Offshore maintains this clear leadership position by continuously investing in new technology, and offering unique solutions for clients, irrespective of challenging field dynamics or location.

**KEY ACHIEVEMENTS**

- **12 FPSOs** in current operating fleet
- **3 x First Oil in 2016** – including:
  - 2 high-capacity, pre-salt FPSOs offshore Brazil
  - The world’s deepest production facility, on Shell’s Gulf of Mexico Stones project
- >99% delivery production uptime
- 4.6 billion barrels of cumulative production

SBM Offshore has continuously pushed industry boundaries in term of water depth and conversion-based floating production topside complexity

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**FPSO AT A GLANCE**

<table>
<thead>
<tr>
<th>Year</th>
<th>FPSO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959</td>
<td>CALM Busy</td>
</tr>
<tr>
<td>1960</td>
<td>Drilling Jack-up</td>
</tr>
<tr>
<td>1972</td>
<td>DP Driftship</td>
</tr>
<tr>
<td>1973</td>
<td>SBS Mooring System</td>
</tr>
<tr>
<td>1977</td>
<td>SALS Mooring System</td>
</tr>
<tr>
<td>1980</td>
<td>Leased FPSO</td>
</tr>
<tr>
<td>1981</td>
<td>Jacket Soft Yoke</td>
</tr>
<tr>
<td>1985</td>
<td>External Turret</td>
</tr>
<tr>
<td>1985</td>
<td>Disconnectable Turret</td>
</tr>
</tbody>
</table>

**FPSO Cidade de Ilhabela**

- **World record**
- **Industry first**

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*Notes:
1. Since our first FPSO operations for Shell in 1976, SBM Offshore has executed over 30 FPSO projects worldwide.
Feedback from SBM Offshore’s extensive Projects and Operations ensures continuous improvement across the full lifecycle.

Engineering
- 55 years of industry firsts
- Leading edge technology

Procurement
- Integrated supply chain
- Global efficiencies
- Local sourcing
- Frame agreements with vendors

Construction
- Strategic partnerships
- Unrivaled project experience

Operations
- 260+ years of operational experience
- 99.1%+ production uptime

Installation
- Dedicated fleet
- Unparalleled experience
- Extensive project capability

Best operator NPV
Low cost / Fast-track schedule
Technical competencies
Catalogue of Solutions
Contractor Specifications
Equipment standardisation
Life extension
Cost optimization
Hull Optimization
Process intensification

CONTINUOUS IMPROVEMENT ACROSS THE FULL LIFECYCLE
SBM Offshore maintains this clear leadership position by continuously investing in new technology, and offering unique solutions for clients, irrespective of challenging field dynamics or location.

Since our first FPSO operations for Shell in 1976, SBM Offshore has executed over 30 FPSO projects worldwide. Success for SBM Offshore is when our clients meet their goals. Our competitive technical and commercial solutions, our delivery track record, operational excellence and production uptime – including:

- The world's deepest production facility, on Shell's
- 2 high-capacity, pre-salt FPSOs offshore Brazil
- 11 FPSOs in current operating fleet
- 55 years of industry firsts
- 260+ years of operational experience
- World record for the deepest floating production unit at 2,900 meters
- The world’s deepest production unit – SBM's third generation FPSO
- First turret-moored FPSO
- World’s deepest production unit and deepest FPSO at 2,900 meters
- First and largest disconnectable system, with Steel Risers
- SBM’s third generation FPSO design (G3) has proven to be a game-changer for pre-salt fields, with an impressive quartet of pre-salt FPSOs for Petrobras
- Improved production efficiency and time savings on the schedules for FPSO Cidade de Ilhabela, FPSO Cidade de Paraty, and more recently sister FPSOs, Cidade de Maricá and Cidade de Saquarema. G3 standardization has given SBM a winning advantage and brought clear results for Petrobras:
  - 150,000 bpd processing capacity
  - Complex gas processing with CO₂ renewal and re-injection
  - 1.6 million barrels storage capacity
  - Moored in approximately 2,300 meters water depth

FPSO Turritella for Shell’s Stones development is SBM Offshore’s ground-breaking move into the region. Turritella makes the record books as the world’s deepest production facility as well as the first to use steel lazy wave risers connected to a disconnectable turret mooring system. The FPSO also boasts one of the most complex mooring systems ever built.

- World’s deepest production unit
- First and largest disconnectable system, with Steel Risers

<table>
<thead>
<tr>
<th>YARDS</th>
<th>G3 FPSO DESIGN</th>
<th>WORLD RECORDS</th>
</tr>
</thead>
</table>
| BRASA yard – Niteroi, Brazil  
  • 65,000 m² work space for module fabrication and FPSO integration  
  • Integration quayside takes VLCC size FPSOs  
  • Pelicano 1 - 2000 tons floating crane barge, one of largest in South America | Improved production efficiency and time savings on the schedules for FPSO Cidade de Ilhabela, FPSO Cidade de Paraty, and more recently sister FPSOs, Cidade de Maricá and Cidade de Saquarema. G3 standardization has given SBM a winning advantage and brought clear results for Petrobras:  
  - 150,000 bpd processing capacity  
  - Complex gas processing with CO₂ renewal and re-injection  
  - 1.6 million barrels storage capacity  
  - Moored in approximately 2,300 meters water depth | FPSO Turritella in the Gulf of Mexico claims the world record for the deepest floating production unit at 2,900 meters and the largest disconnectable system, reinforcing SBM Offshore’s reputation as a technology pioneer |
| PAENAL YARD – Porto Amboim, Angola  
  • Annual capacity: >10,000 tons  
  • 85% Angolan nationals - trained to international standards  
  • 490-meter integration quay  
  • Only yard in West Africa suitable for VLCCs  
  • Jamba - 2,500 tons heavy lift crane, the largest in West Africa |  | FPSO Turritella for Shell’s Stones development is SBM Offshore’s ground-breaking move into the region. Turritella makes the record books as the world’s deepest production facility as well as the first to use steel lazy wave risers connected to a disconnectable turret mooring system. The FPSO also boasts one of the most complex mooring systems ever built.  
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*INDUSTRY FPSO PERFORMANCE IS POOR ACROSS ALL EXECUTION STRATEGIES*

Graph A

Graph B

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Source: Independent Project Analysis, Inc (IPA)

LOOKING FORWARD WITH FAST4WARD - offering a generic design compatible with different types of mooring systems and topsides, to revolutionize the FPSO industry

SOLUTION and ADVANTAGE

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Technology

COST & SCHEDULE

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Note 1


Project Discipline

Product Line

FPSO

FLOATING PRODUCTION STORAGE AND OFFLOADING

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COST GROWTH
SCHEDULE INDEX SCHEDULE SLIP
PRODUCTION ATTAINMENT

OPERABILITY PROBLEMS

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SOLUTION and ADVANTAGE

Graph A Graph B

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