



EXPERIENCE **MATTERS**

**2016**

ANNUAL REPORT

## 2 STRATEGY AND PERFORMANCE

Regional Centers to develop and offer the most cost-effective and performing solutions as the industry moves towards less complex and lower investment projects.

SBM Offshore believes that simplification is the solution for future turnkey projects and the Company aims to leverage its experience across its turret portfolio from top-end to mid-complexity to basic turret mooring systems. In today's low oil price climate the fit-for-purpose mooring systems with a basic level of functionalities offer practical and cost-effective solutions while optimizing the NPV equation. Engaging with clients at an early stage of their projects to promote use of SBM Offshore's specifications, allows clients to benefit from the Company's vast experience to find the optimal solution, including use of cost-reducing technology. The Company believes that only an experienced mooring system expert like SBM Offshore can offer safe, simple, cost-effective mooring solutions, whilst still meeting design and safety requirements.

### 2.3.2 FLEET

#### KEY FIGURES IN 2016

- 4.9 billion barrels cumulated production by December 31
- 8,143 cumulated offloads
- 287 cumulative years of operational experience
- 3 FPSOs added to the fleet

The addition of three units to the fleet in 2016 represents a major step up in the daily production volume managed by Operations teams. Such a leap is rare in the industry. Specifically the two new Brazilian FPSOs were integrated seamlessly into the existing operations of the shorebase office at Santos and are quickly increasing production after first oil. Learnings gained from the previous start-ups in-country were of great benefit and helped the Company to set a new benchmark for efficiency in offshore commissioning and start-up on new units. The team in Houston are progressing through the

well unloading and production ramp up of the FPSO *Turritella*, in close cooperation with the client.

The three units represent an increase of 25% to SBM Offshore's fleet oil production capacity, bringing it to a total of 1,600,000 bopd. This achievement confirms SBM Offshore's capability to leverage its experience, integrating three state-of-the-art units with record-breaking technology in the same year, without impacting performance of ongoing operations for the rest of the fleet.

The two additional vessels for offshore Brazil, FPSO *Cidade de Saquarema* and FPSO *Cidade de Maricá* are among the highest producing units in the fleet with a combined oil production capacity of 300,000 bopd. These Generation 3 FPSOs also represent the most complex in design and bring to a total of four FPSOs in the fleet adding to the Company's portfolio and experience in pre-salt.

The third unit to join the fleet in 2016 FPSO *Turritella* also represents a broadening of the portfolio for Operations as the unit is the Company's first FPSO in the Gulf of Mexico. The FPSO breaks the industry record for being the deepest FPU and it has the largest disconnectable turret designed to date. SBM Offshore is building on the vast expertise it has in deep water and its know-how on complex turret mooring systems.

The critical activity of ensuring crew competency development through the project phase was successfully managed on all projects, ensuring the smooth transition from the project phase to the operations phase and a steady ramp up of the facilities after first oil.

With the additional two units, offshore Brazil accounts for an increasingly large share of the Company's fleet operations with a production capacity of 870,000 bopd. Combined operations

offshore African countries follow in second place, with a capacity of 495,000 bopd.

### NEW UNITS IN FLEET

- FPSO *Cidade de Maricá*: first oil achieved in February and oil operations are going to plan in the Lula field in the pre-salt province offshore Brazil. By year-end the unit achieved a flawless increase in production beyond 100,000 bopd in line with targets. The initial charter contract is for 20 years
- FPSO *Cidade de Saquarema*: first oil achieved in July and operations in the same field offshore Brazil as her sister ship *Maricá*; oil production is ramping up with results similar to *Maricá* in line with targets. The initial charter contract is for 20 years
- FPSO *Turritella*: first oil achieved in September in the Gulf of Mexico. The unit has an oil production capacity of 60,000 bopd. The FPSO adds diversified experience to the Operations team in terms of specific technical features and expands SBM Offshore's knowledge of regulatory environments. In the event of sailaway, the disconnectable turret has the advantage of allowing the FPSO to quickly resume production when the unit returns to location. The initial charter contract is for 10 years, with extension options up to a total of 20 years

As a result of these new operations, as well as the production increase of the pre-existing fleet, the oil production level increased by 27% from 771,000 bopd in 2016 compared to 608,000 bopd in the previous year.

### FULL FLEET (AS OF DECEMBER 31, 2016)<sup>2, 3</sup>

SBM Offshore is responsible for the operations of 16 units and the maintenance of all 18 units in the lease fleet across the globe consisting of:

- 14 FPSOs
- 2 FSOs
- 1 MOPU
- 1 Semi-submersible unit

### OPERATIONAL PERFORMANCE

SBM Offshore is committed to delivering consistent, reliable and safe production performance of its units, while adhering to its environmental objectives. The main production performance indicator of the fleet is 'Production Uptime'. It measures the percentage of time in which a unit is available to produce and is not affected by any unplanned events, which may impair its ability to do so. Historically, uptime of the fleet has matched or exceeded 99.0%. Performance in 2016 was affected by two episodes during the year (see below), resulting in an overall uptime performance for the fleet of 96.8 % in 2016. The other vessels in the fleet continued to perform at 98.8% uptime, within the historical level and to the world-class standards to which SBM Offshore aspires.

- Deep Panuke production facility experienced a malfunctioning of its flarestack on March 20, 2016. The facility was shutdown for repairs, which were completed on May 26, 2016, within the 120-day contractual allowance. While there was no impact to the contractual dayrate related to the shutdown, the downtime impacted the fleet uptime average by 1.5%. The root cause of the flare tip failure was identified and taken into account in the design of the new one. Flare tips of similar design were replaced on two FPSOs during planned maintenance downtime in Q4 2016
- FPSO *Cidade de Paraty* operating offshore Brazil experienced a temporary production interruption due to a compressor malfunction. Contingencies, including a spare compressor, have been put in place to mitigate future impact. Downtime impacted the fleet average by 0.5%.

<sup>2</sup> Oil tanker *Tina* – formerly in lay up offshore Labuan – was engaged in oil transportation services from March 2016 following completion of dry dock maintenance.

<sup>3</sup> FPSO *Marlim Sul* (Brazil) – decommissioning activities were completed in April 2016 – currently in lay-up.

## 2 STRATEGY AND PERFORMANCE

Furthermore, intermittent shutdowns of the Thunder Hawk DeepDraft™ Semi occurred, caused by the unavailability of third party facilities, which resulted in a capacity constraint in the pipeline.

### OPERATIONS OPTIMIZATION

In 2016 the SBM Offshore cost per produced barrel decreased compared to 2015. Besides the production increase, various factors contributed to this efficiency gain.

**Personnel headcount** per produced barrel decreased by 27%.

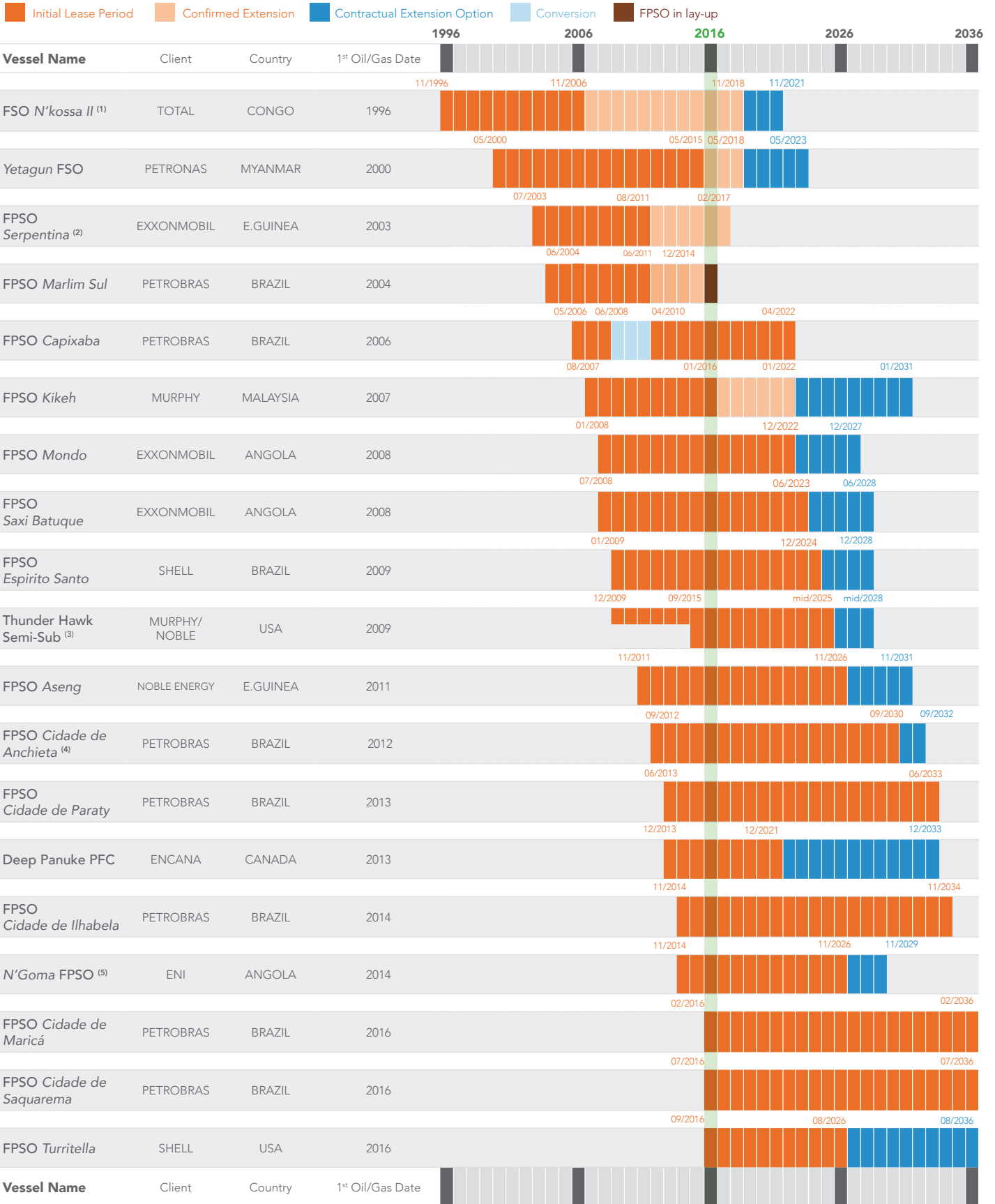
- The onshore staffing for new vessels operations was limited to some dedicated personnel, by leveraging existing onshore support in Brazil, USA and Monaco
- Onshore and offshore optimization was achieved; this included personnel optimization in the Operations central office (Monaco) by decentralizing activities to the regional offices and a reorganization in Brazil (closure of the Macae onshore base and merging of other resources); offshore efficiencies, via a thorough review of the core crew complement vessel by vessel and resulted in a reduction of overall crew headcount. In addition experienced work force from the Company's decommissioned FPSO *Marlim Sul* joined the crews of the Brazilian FPSOs that started up in 2016.

### SOCIAL ACCOUNTABILITY STANDARD IN FLEET OPERATIONS

Steps are being taken to ensure all operations offices comply with the Group's Social Accountability Manual Standard, which is based on SA 8000<sup>4</sup> standards. The percentage of external verification on this issue for the Group's shore bases is the KPI. The Company aims for 100% external verification within two years of opening of a new shore base. See section 6.4 for details.

<sup>4</sup> SA 8000 is an auditable certification standard that encourages organizations to develop, maintain and apply socially acceptable practices in the workplace. It is based on the UN Declaration of Human Rights, conventions of the ILO, UN and national law and spans industry and corporate codes to create a common language to measure social performance.

# OPERATIONS FLEET



(1) Operator is Maersk (JV Partner)  
 (2) FPSO *Serpentina* is owned by the client and SBM Offshore performs operations and maintenance

(3) Operator: Murphy until August 31, 2016; Noble took over as operator Sept. 1, 2016  
 (4) FPSO *Espadarte* relocation  
 (5) FPSO *Xikomba* relocation

## 2 STRATEGY AND PERFORMANCE

### ASSET INTEGRITY, MAINTENANCE & COST MANAGEMENT

SBM Offshore's approach to Asset Integrity is to ensure asset preservation with optimal life cycle costing. Some important steps were undertaken in 2016:

- Computerized maintenance management system upgrade program to further enhance Process Safety, while optimizing maintenance activities. A pilot program was put in place on an operating FPSO offshore Brazil
- Remote process monitoring for most units, allowing real time assistance from onshore teams and event analysis for appropriate response and future improvements
- Application of technologies for inspections and maintenance activities onboard, to improve efficiency while reducing safety risks; including diver-less hull inspections, non-intrusive on-stream inspection for pressure vessels, in situ hull repair techniques without hot work
- SBM Offshore's Digital FPSO project was launched in September to embrace the latest digital technologies across the entire product life cycle to improve performance of the current fleet, lower the cost of products through more efficient execution and create a strategic direction towards a fully digital future
- Planned maintenance shutdowns on FPSOs were improved with implementation of a standard approach to maximize efficiency and effectiveness of inspections, repairs and upgrades during shutdown windows. Performance feedback will be used for further improvement. Planned maintenance shutdowns on five FPSOs were completed in 2016
- The fleet-wide asset upgrade program continued and completion is targeted for 2017

### 2.3.3 TURNKEY

#### MANAGEMENT APPROACH

This year saw the Company's turnkey order book shrink, reflecting a reality in the industry as the

depressed market for projects continues. SBM Offshore had foreseen this and has been actively optimizing its designs and engaging with clients, transforming its product offering, by leveraging its position as market and technology leader in offshore mooring systems since developing the first mooring systems almost 60 years ago.

Going forward the Company's strategy is to standardize elements of its designs and to leverage lessons learnt to bring solutions to the table that better fit the constraints of a CAPEX-limited climate.

### 2016 PERFORMANCE

From a delivery perspective for SBM Offshore's turnkey division, the year represents a very active and productive year with two complex turret mooring systems progressing towards successful delivery to clients.<sup>5</sup> Within the context of industry performance, this number is significant and cements SBM Offshore's reputation as a leader in EPCI for the turret market.

### FUTURE

The Company is investing in its capacity in the turnkey division in order to be ready for when the market picks up.

## 2.4 HEALTH, SAFETY & SECURITY

### MANAGEMENT APPROACH

It is SBM Offshore's top priority to ensure the Health, Safety and Security (HSS) of its employees, subcontractors and assets. The Company embraces its 'Duty of Care' regarding all HSS matters by adhering to industry best practices. SBM Offshore's Management is pleased to report that the roll out of the Safety Leadership Program to all the Regional Centers has been completed and the safety culture journey strengthened through initiating further cascading engagement with

<sup>5</sup> Ichthys and Prelude turrets.