



**OFFSHORE**

ENERGY. COMMITTED.

# ANNUAL REPORT 2018

## 2 STRATEGY AND PERFORMANCE

### 2.10 TECHNOLOGY

#### MANAGEMENT APPROACH

To develop its technology strategy, SBM Offshore first engages externally with its clients and internally with Product Line divisions to identify and analyze the key technical and business trends in the offshore industry. Armed with this market-based information, the Company predicts future technology gaps and strives to find innovative, safe, reliable and cost-effective solutions to meet these challenges. SBM Offshore's technology team actively works towards this goal by transforming and innovating to ensure that the Company is well positioned for future projects as clients' needs evolve.

In 2018, the Company continued to meet the needs of an evolving energy mix by increasingly diversifying its efforts into emerging technologies associated with gas, power and renewable energies.

The Company operates a robust technology development process, which ensures that investment in each new project or innovation is justified against a business case. Moreover, SBM Offshore develops its new technology through a structured stage-gate process to ensure that it is fully mature before being offered for sale or introduced into projects. This Technology Readiness Level (TRL) process includes full-scale prototype testing of new proprietary components and full FEED level definition of new systems as part of the qualification requirements.

The Business Readiness Level (BRL) system, which manages business maturity, measuring the readiness of functions such as construction and operations to adopt the new technology, acts as a complement to the TRL process and both processes endeavor to reach maturity at the same pace.

#### KPIs and Targets

Technology development continues to be guided by three principles:

1. To embed the Fast4Ward™ principles in all Technology development programs.
2. To embrace Digital Transformation to differentiate technology solutions.
3. To embed the Sustainability Development Goals into our technology solutions.

The success of SBM Offshore's Technology division is measured by the capacity to innovate and develop

differentiated solutions ready for application within the Product Lines. The method of measurement applied is the quantity of TRL gates passed, which signify progress on the technology development program. In 2018 over 60 TRL stage gates were passed.

#### Competitive Advantage through Technology

SBM Offshore strives to deliver high performance solutions that meet or exceed client's expectations and go beyond what is available in the market. During 2018, revenues were generated from several projects where technology played an important part in SBM Offshore being selected for the contract award.

### 2018 PERFORMANCE

#### Key Achievements

The major development projects undertaken in 2018 include:

- Floating Offshore Wind, where the mini-TLP concept has achieved Approval in Principle (AIP) from classification society ABS and has been further developed to optimize industrialization potential. A development study is ongoing with a client
- The S3 Wave Energy Converter (WEC) project continues towards pilot tests at sea
- Latest digital solutions adopted to improve fleet operational performance and increase EPCI efficiency. The roll out of the digital program commenced in 2018 and will continue in 2019, with increased focus on benefit realization
- Continued development for floating gas solutions with conversion and new build options targeted at mid-scale capacities
- Development of FLNG topsides concepts jointly with a LNG contractor
- Development of a new LNG-to-Wire concept, to deliver clean and low cost electricity to coastal areas
- Continued work to build expertise in the Steel Lazy Wave Riser (SLWR) design as a cost effective solution for ultra-deep water and/or HPHT fields
- A range of new swivels for enhanced performance is being developed and fabrication of a test rig for a prototype swivel progressed and will continue in 2019
- Progress on a co-development project in Brazil, under the Agencia Nacional do Petroleo, Gass

Natural e Biocombustíveis (ANP) R&D funding program.

### Intellectual Property

The Company maintains a significant Intellectual Property (IP) portfolio, including patents, trademarks, and copyrights. The IP portfolio contains 151 patent families, each registered in many countries around the world, and covers a wide range of technologies, including FPSO mooring and turret systems, semi-submersible and tension leg FPU's, hydrocarbon transfer and processing systems including LNG and gas processing, drilling and riser technologies, offshore installation and also covering renewable technologies like wind floaters and wave energy systems. During 2018, the Company divested several non-core patents, filed 14 new patent applications for new and innovative technologies and closed out a legal case of an infringement of a Malaysian patent of SBM Offshore.

### Technical Standards

A key driver for the cost of new projects is the technical standards to be applied in addition to the local regulatory requirements. Typically, these standards can fall into three categories – client standards, contractor standards or a hybrid set of customized standards. In the current climate of severe cost pressure there is a logical push in the industry towards wider acceptance of contractor standards. By leveraging its expertise, SBM Offshore can minimize project customization and efficiently deliver more standard products with significant cost and schedule savings.

The Company achieves this through its Group Technical Standards (GTS), by integrating key elements of its accumulated project and fleet operational experience. To date, the Company has executed over 20 major projects using its GTS as the basis since they were established in 2003. The Company aims to continuously improve and develop the GTS.

## 2.11 SUPPLY CHAIN

### STRATEGY

The Supply Chain function remains focused on supporting the projects with the highest level of safety, performance and quality. In 2018, Supply chain resources of the Company's worldwide locations were amalgamated and now report to the centralised Group Supply Chain function under the Resources and Services division. As such, responsibility for the processes, tools and project supply chain activities is now under the same umbrella allowing monitoring of the business synergies, better sharing of the lessons learned and continuous improvement of the ways of working. Throughout this year, particular attention and efforts on vendor qualification have been maintained in order to ensure that subcontractors' capabilities have been properly assessed before commercial engagement. Group Supply Chain has also actively participated in the development of supply chain activities in China through the set-up of the local team and organization and the definition of a plan to expand our approved vendor data base with local Companies.

### 2018 PERFORMANCE

#### Key Achievements

- In a permanent objective to achieve better quality, the vendor qualification campaign launched in 2017 has been pursued. This exercise was undertaken with relevant internal stakeholders to guarantee a multi-dimensional assessment
- Close collaboration between strategic sourcing and all Company Product Lines to better define objectives and priorities, to deliver the most appropriate procurement strategies, framework agreements and market intelligence information for each strategic category.
- The collaboration with SBM Offshore's strategic vendors has been further enhanced and key events have again been organized this year, such as a Global Supply Chain Vendor Day and Executive and Operational Steering Committees.
- High focus has been maintained on the importance for our vendors to adhere to our Code of Conduct. In this respect, suppliers that have gone through the revised vendor qualification process are required to sign the Supply Chain Charter, in order to fulfill the Company commitments to meet human rights and labor law standards, among others.