DRILLSHIPS

MAGELLAN CLASS

OPERATIONAL FLEXIBILITY & CAPABILITY

GAME-CHANGING SOLUTION

GustoMSC

In the footsteps of Magellan Ferdinand Magellan (Fernão de Magalhães) was the first sea explorer to circumnavigate the earth. GustoMSC developed the Magellan-class drillship in the explorer's own tradition of endurance, perseverance and determination. It is ready to take the deep-water offshore drilling industry to the next level and beyond.

DEEP SEA

MAXIMIZING PERFORMANCE MINIMIZING RISKS

THE MAGELLAN RESETS THE BOUNDARIES

The Magellan-class drillship brings a distinctive alternative to the market. It utilizes the proven design features of a GustoMSC independently designed drillship, a characteristic appearance, flexibility to meet current market demands and readiness for new and emerging drilling technologies. The design also outperforms the current fleet in terms of autonomy, redundancy and safety and load-carrying capacity.

Advanced new drilling techniques and developments in drilling equipment prompted consideration of a new class of drilling vessel. “But the most important motivation for developing a new drillship was the growing interest in units that could drill in deeper water and have more operational flexibility and capability,” says Sjoerd Hendriks, Design Manager of the Magellan project. “We also receive feedback on our existing products and, of course, we learn from the industry in general. After the Macondo incident in 2010, for example, there were many recommendations concerning operational procedures and rig design – with an emphasis on safety. We naturally wanted to incorporate that information into the new design.”

Proven technology

The Magellan is the largest drillship that GustoMSC has designed to date. The backbone of the ship consists of the well-established and field-proven design principles of its predecessors: the main layout and handling principles are as logical and effective as those of the P10,000 rig: the principles of integration for enlarging deck areas are derived from the compact Qdrill and the entire integrated design solution is still inspired by the Pelican-class drillships.

12,000 feet and beyond

One important step forward is that the Magellan is equipped for 20,000 psi well-control systems, including the associated increases in capacity, such as high hook loads and a large setback capacity. Pressures of 15,000 psi are customary on the current drilling vessels. Magellan’s ability to accommodate higher pressure, high variable loads, mud volumes and setback capacities and incorporate any type of advanced drilling techniques – such as managed pressure drilling and dual gradient systems – means it is equipped to drill well beyond the current market limit of 12,000 feet. Dimitris Chalkias, Lead Naval Architect of the Magellan design team: “It’s fairly simple to equip this drillship for a water depth of 15,000 feet. The ease with which our vessels can be upgraded is a characteristic of our designs that is of great benefit to owners.”

Large available areas and flexibility

Another popular requirement that the Magellan satisfies is that of a large workable deck area on board. “We achieve this by integrating the hull and mission equipment in a highly efficient manner, drawing on the intelligent design solutions of our previous drilling vessels,” Chalkias explains. “Clients really appreciate such abundant flexible space, since not all the equipment stays on board permanently and fitment varies depending on operations.” The Magellan maintains compatibility with a variety of providers, ranging from suppliers of drilling and power apparatus and thrusters to classification societies, without preference, providing ultimate flexibility, not only in operations, but also in project execution.

Increased autonomy

The rig is designed to accommodate enhanced power-generation configurations, increasing power and thruster capacity in emergency situations, thus providing a safer platform during operations. In addition, it supports the integration of environmental footprint-reducing measures. João Mendonça Santos, one of GustoMSC’s drillship professionals, explains: “The drilling vessel has large drain tanks and space for cutting storage to minimize the impact on the environment.” The total vessel capacity in terms of vessel and drilling consumables allows for greater autonomy and reduces dependence on local infrastructure during operations, and also provides drilling-hub functionality in a field development scenario.

Allocated thruster spaces are designed to be equipped with the GustoMSC thruster retrieval system. A thruster of any make or type can be fitted in a dedicated designed canister. By means of a rack-and-pinion system, the complete canister – including thruster and support equipment – can be raised. The thrusters can be retracted to above the base line to reduce resistance in long ocean voyages, increasing speed and/or saving fuel. The racks are hull-mounted, and can be extended above the main deck, enabling the thruster to be retrieved from there. “This is a cost-saver,” Mendonça Santos explains. “Because maintenance such as thruster replacement can be performed on site, losses of day rates are prevented, and dry-docking costs saved.”

Safety, an important focal point

Besides the improved availability of electrical power, the unit supports both increased separation between ventilation openings and separation from the hazardous areas. The Magellan also has independently powered fire-extinguishing facilities. Enhanced fire insulation and explosion protection measures may be incorporated without affecting the efficiency of the drilling operations on board. The unmatched deck area available on the Magellan design enables for emergency response equipment spreads to be accommodated on the ship, and the increased mud volume gives greater independence in critical well operations. Overall safety is further improved with capacity for 20,000 psi well-control systems and two full eight-ram BOP stacks. To ensure a properly coordinated response during incidents, the platform is equipped with an integrated central control room which has a clear view over the drilling plant.

MAIN CHARACTERISTICS

Length	243 m
Breadth	39.8 m
Depth	20.3 m
Displacement	104,000 t
Variable load	37,500 t
Water depth	> 12,000’
Accommodation	230 POB
Speed	12-14 knots
Derrick	3,500 / 2,500 kips
Setback	2,200 t
Riser tensioning	16 x 280 kips
Mud capacity	4,500 m^3

The above specifications show the standard unit, and may be subject to change without notice. Customization according to the client’s specific requirements is possible.

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For more information, please visit: magellan.gustomsc.com

LARGE WORKABLE DECK AREA

7,500 M²

Of the 80,000 ft2 capacity, 1,500 m2 (16,000 ft2) is reserved for well-completion operations, and 700 m2 (7,500 ft2) for enhanced drilling technologies such as Managed Pressure and Dual-Gradient drilling. By integrating the hull and mission equipment in a highly efficient manner, it is easy to customize the Magellan for a variety of drilling operations and different equipment suppliers, providing ultimate flexibility.

IMPROVED OVERALL SAFETY

8 RAM BOPs

Safety is enhanced by 20,000 psi-working-pressure well-control systems and the availability of two full eight-ram BOP stacks. Enhanced fire insulation, explosion protection measures and emergency response equipment may be incorporated without affecting the efficiency of the drilling operations.

MAXIMUM WATER DEPTH

15,000 FT

The Magellan is capable of drilling well beyond the current market limit of 3,660 m (12,000 ft). It can be equipped for a water depth of up to 4,580 m (15,000 ft).

HIGHER PRESSURE

20,000 PSI

Pressures of 15,000 psi are customary on the current drillships. Magellan is not only able to accommodate higher pressure, but also higher hook loads, mud volumes and setback capacity. It has the ability to incorporate any type of advanced drilling techniques, such as managed pressure and dual-gradient drilling systems.

LARGE VARIABLE LOAD

37,500 T

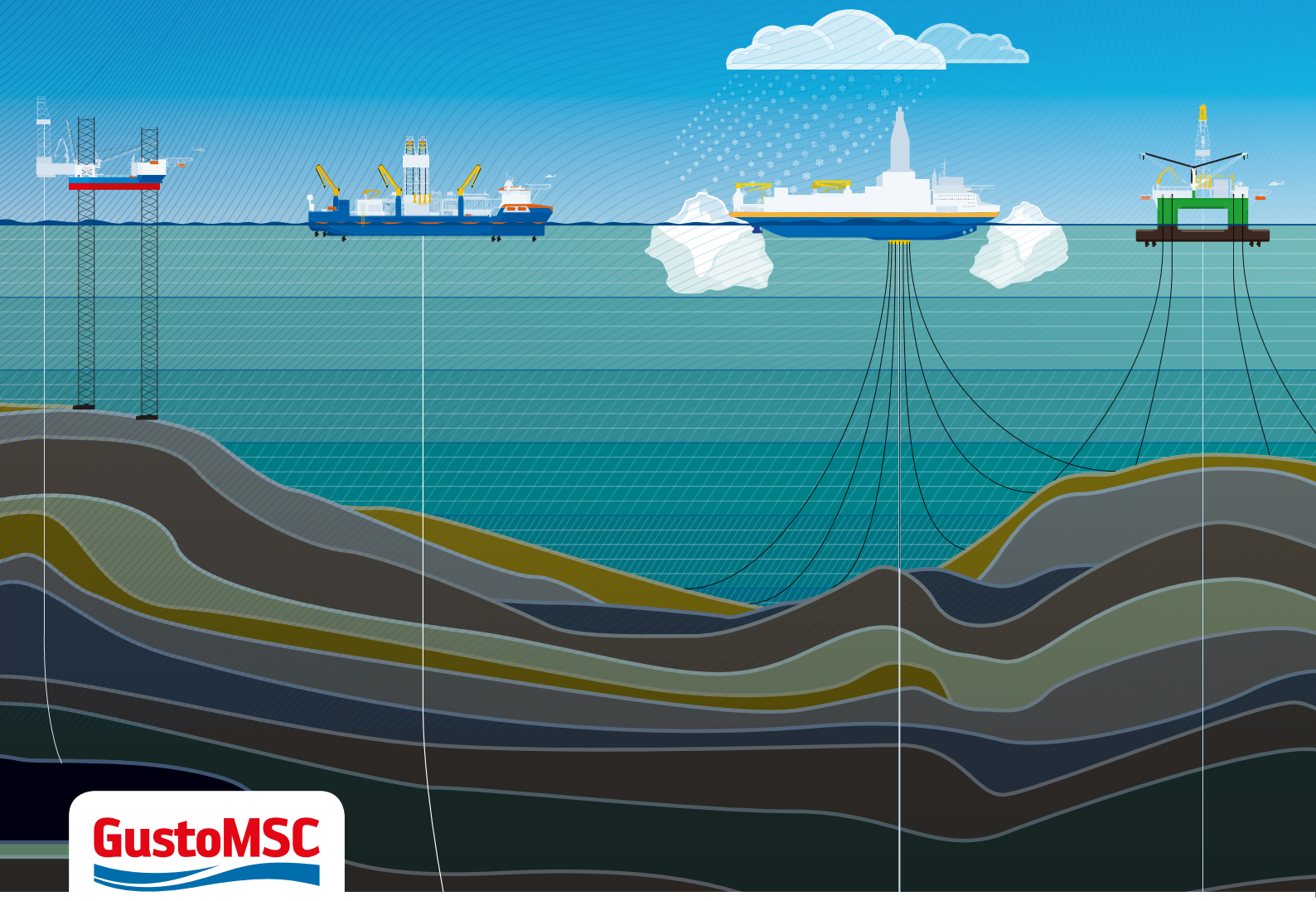
The total vessel capacity in terms of consumables allows for greater autonomy of up to at least 100 days or more. Large drain tanks and ample capacity for cutting storage allow Magellan to minimize the impact on the environment.

MAXIMIZING UPTIME

TRS SYSTEM

The TRS system allows the thrusters to be retrieved above deck for full maintenance while the drillship is in the field. In transit conditions the forward thrusters can be retracted within the hull reducing drag and increasing full efficiency.

THE PIONEERS OF OFFSHORE ENGINEERING



GustoMSC

GustoMSC is an independent, world renowned and leading design and engineering company, thanks to the vast knowledge and expertise of our dedicated professionals and our close relationships with the most influential players in the offshore energy market. We serve the offshore industry by providing the best-in-class solutions for mobile offshore units.

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