

NG-5500X-LD EFFICIENT LIGHT-DRILLING RIG

The NG-5500X-LD is the latest design in GustoMSC's successful series of self-propelled jack-up designs, the NG series. It is based on the proven and seasoned NG-2500X and NG-1800X designs, of which already a significant fleet of units is in operation. The NG basis; it serves as a safe, stable and efficient platform that can be operated as an autonomous, fast moving jack-up platform in a moderate as well as harsh offshore environment. The NG-5500X-LD can operate in a water depth of up to 80 m (262 ft).

Key features

As with all NG types, one of the key features of the NG-5500X-LD is that it is designed with practical operational and survival capability in mind. It means that the unit can remain offshore when adverse weather conditions occur. It stays connected to a well but with reduced combined load. The ability to stay on location results in more workable days, greatly enhancing efficiency and a minimum of non-productive hours during operational charters. With the NG-5500X-LD a rig is introduced which can perform Light Drilling, a variety of Well Intervention and Plug and Abandonment within one field or across several fields in an autonomous and efficient manner. The DP2 positioning system allows the rig to approach any platform on its own. For rig moves the unit only needs to consider its own limitations related to the environment and is not hindered by the time taken for connecting tug boats for example. When elevated our patented X-Y Skidding System enables full combined load capability along the entire transverse envelop.

High utilization

The light drilling rig will ensure high utilization as it can serve a variety of brown field needs, such as Light Drilling, Well Intervention and Plugging and Abandonment. The large clean main deck (approx. 1,200 m²) allows for flexible use, providing space for third party equipment, mission specific needs such as spool pieces and valve blocks as well as space to allocate additional drill pipe, casing or tubing.

Light Drilling Cantilever

The light drilling cantilever truly bridges the gap between the successful shallow to midwater service units and the full-fledged drilling rigs. The NG5500X-LD is equipped with a cantilever featuring the X-Y Skidding System. This system provides a large drilling envelope of 18.3 m x 7.9 m (60 ft x 26 ft). This envelop ensures access

to a vast majority of brown field platform well bay layouts seen in the Southern North Sea, Middle East Gulf and South East Asia. And with 250 tons of hook load at 60 ft and up to 350 tons at 50 ft the rig can truly perform light drilling operations with a drilling depth of 12,000 ft.

The patented X-Y Skidding System, having the derrick and well center fixed in one position in relation to the cantilever, eliminates BOP repositioning and nipple up time between well operations. Besides this, the system enables a constant hook load capacity for any transverse position because the load distribution through the cantilever beams is always the same for the given longitudinal reach capacity. It also allows the cantilever to be relatively slender, which enables easier access for the rig to existing platforms. An important feature as these platforms typically are equipped with modules added through the life of the field to enhance recovery.

Another big plus which comes with the X-Y cantilever origins from the fact that the entire cantilever and drillfloor structure is raised above main deck by approximately 3.6 m (12 ft). This allows for improved material handling as a forklift can drive underneath, and thus reduces crane lifts from the PS to the SB side and vice versa. It also provides additional deck space for container storage and, crucially, provides additional means to handle mud return, cuttings and SWARF.

VFD-controlled jacking system

Safety, control and reliability are introduced by the GustoMSC designed Variable Frequency Drive (VFD)-controlled jacking system. This is a proven jacking system that allows the jack-master to get the unit from site to site in a safe, smooth and fully controlled manner. The system is fully redundant and each pinion is torque-

controlled with stepless speed-setting ability. The controlled ramp up and down, with brakes still engaged, results in a significant reduction of peak loads on the mechanical as well as electrical system. It significantly reduces the wear and tear of the leg rack, pinions, gears and brakes. Furthermore, it enables the jack-master to accurately control the leg loads during preloading at his fingertips. The system also monitors RPD values on the fly. GustoMSC has designed the layout of the VFD system such that redundancy is perfectly in place, enabling the crew to get the rig on location as planned. All this improves the safety, speed and accuracy of the complex process of getting a jack-up on and off location.

Propulsion and Dynamic Positioning (DP)

The NG series of self-propelled jack-ups is equipped with an efficient propulsion system for fast transit (8 knots) to and from offshore locations and for positioning on site. For the NG-5500X-LD this system consists in principle of four azimuthing thrusters that ensure optimal transfer of power, both in transit and while positioning. The unit is designed with a DP2 system for safe, fast and precise positioning. DP systems enhance the overall safety and uptime when approaching or leaving any job site, especially when the weather conditions changes.

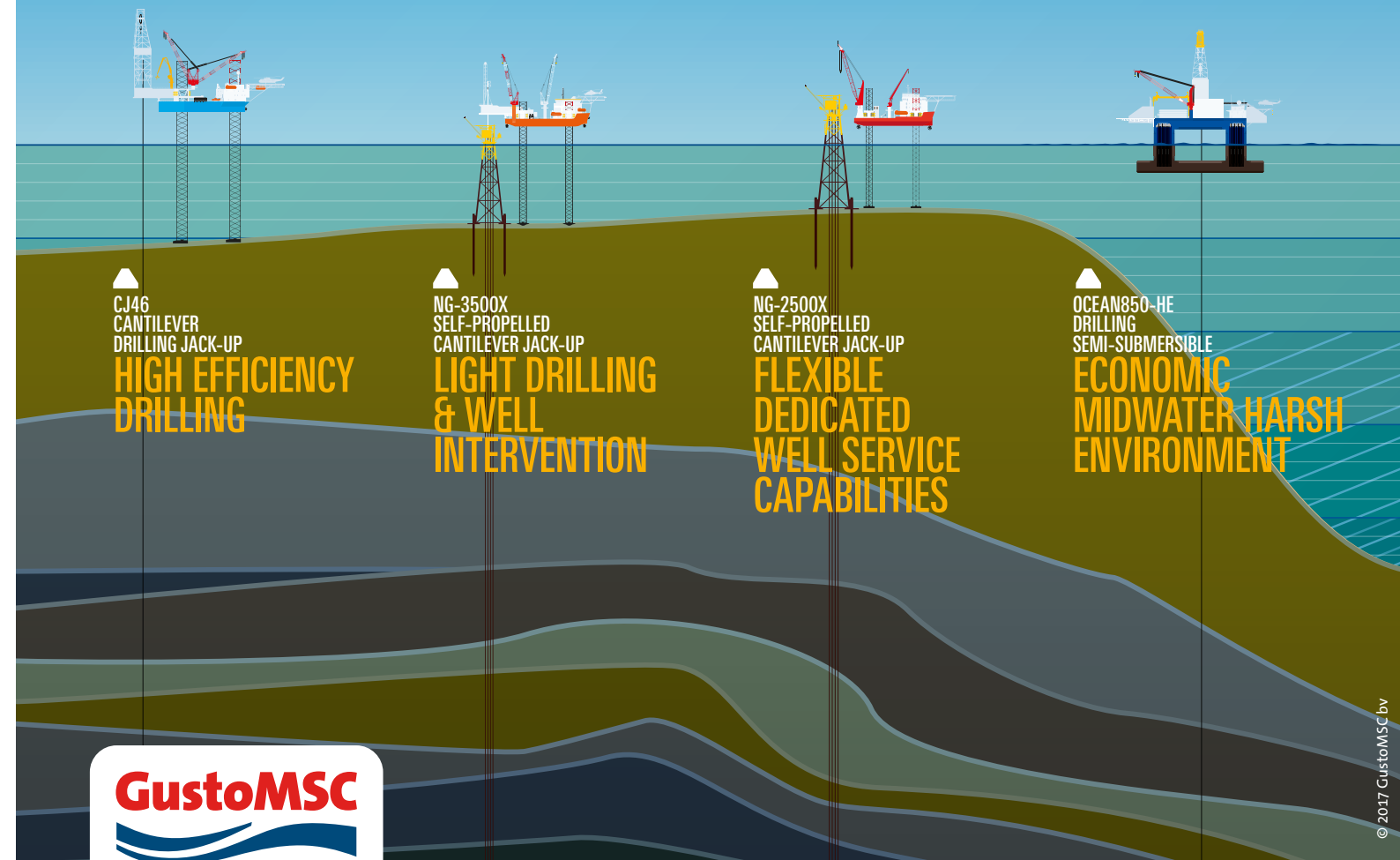
Fast on and off location

Four-legged jack-ups, like the NG-5500X-LD, achieve preload by alternatively loading diagonally opposed legs, utilizing the jacking systems. This is a much faster and safer operation than taking on water ballast, as the traditional three-legged jack-ups do and it significantly reduces the overall pre-load time. Therefore, the unit can be in operation much earlier, resulting in more uptime. The operation is also safer as soil settlement can be corrected in a more controlled manner than is the case for a unit with three legs, especially when making use of a VFD jacking system. This simple and fast preloading together with the excellent maneuverability and good transit speeds are key benefits of the GustoMSC NG series.

MAIN CHARACTERISTICS

Hull length	87.5 m	(287 ft)
Hull width	42 m	(138 ft)
Hull depth	8 m	(26 ft)
Free deck area approx.	1,200 m ²	
Accommodation	90 PoB	

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 best-in-class solutions for mobile offshore units.

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SELF-PROPELLED
CANTILEVER JACK-UP

SAFE, STABLE & EFFICIENT

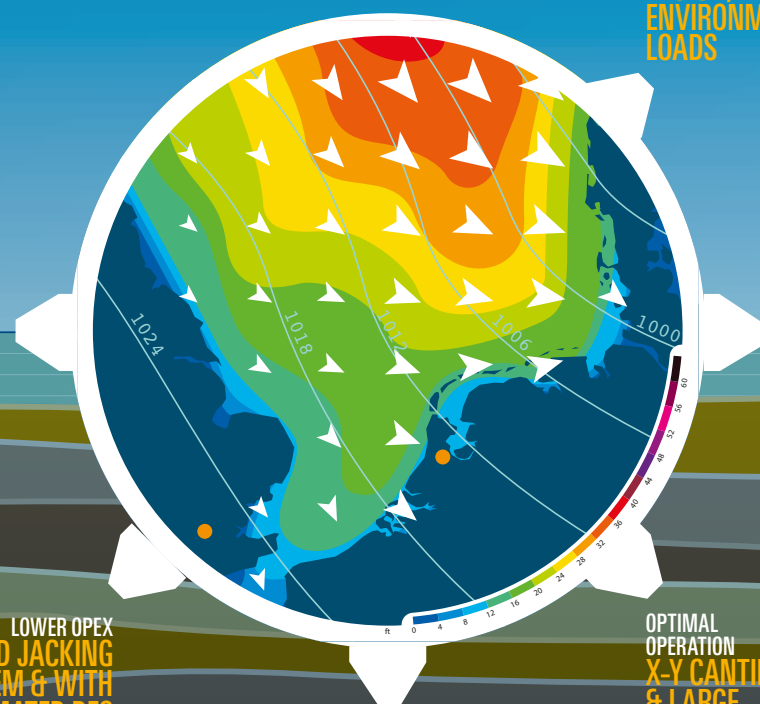


GustoMSC

The NG-5500X-LD is a solution for light drilling and well intervention work in a large number of mature fields in the Southern North Sea, Middle East and South East Asia. The conditions of these fields are characterized by water depths of up to 80 meters except for the Southern North Sea, which only reaches up to 50 meters. Until now this was the domain of classic drilling jack-ups and tender barges with associated day rates and operational restrictions.

NG-5500X-LD BEST-IN-CLASS SOLUTION FOR LIGHT DRILLING

SAFE & STABLE IN SURVIVAL CONDITIONS
MODERN JACK-UP DESIGN, HIGH ENVIRONMENTAL LOADS



NG-5500X-LD
SELF-PROPELLED
CANTILEVER JACK-UP
YEAR-ROUND
WELL SERVICING
SUPPORT

LOWER OPEX
VFD JACKING
SYSTEM & WITH
AUTOMATED DES

AUTONOMOUS &
FAST RELOCATIONS
SELF-
PROPELLED,
DYNAMIC
POSITIONING

OPTIMAL
OPERATION
X-Y CANTILEVER
& LARGE
OPERATIONAL
CAPABILITIES

HIGH NUMBER
OF JACKING CYCLES
≥1,000
TRANSFERS

FREE DECK SPACE
FOR MISSION EQUIPMENT
1,200 M²
12,916 SQFT

FAST & AUTONOMOUS
POSITIONING
DP2

COMBINED LOAD
350 T
770 KIPS

CANTILEVER REACH
18.3 X 7.9 M
60 X 26 FT

