

THE EGYPTIAN RIG MARKET: OFFSHORE VS. ONSHORE

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The Egyptian rigs market is one of the largest markets in the North African region. Recently, it has gone through several changes, which serves the new discoveries - such as the discovery of the giant gas field Zohr in 2015 - and accordingly attracts attention to the country's onshore and offshore hydrocarbon resource potentials.

However, the changes slowed down from October 2017 to September 2018, as the rigs market did not witness significant swings either in the absolute number of rigs, types or areas. This report will analyze Egypt's rigs in this one-year timeframe.

Egypt has two main types of rigs: onshore and offshore rigs. The equipment used in them are not so different as both methods need tools like exploratory equipment, waste-water/oil separators, pipelines, pumps, and storage tanks. However, there are some ultimate differences within the structure of the drilling rig itself.

OFFSHORE RIGS

There are two types of offshore rigs in Egypt: the first one is the moveable offshore drilling rigs, as jack-up, semi-submersible, and drillship rigs; while the second type is the fixed rigs/platforms. These offshore rigs are used in the Gulf of Suez, the Mediterranean Sea, and the Delta regions.

JACK-UP RIGS

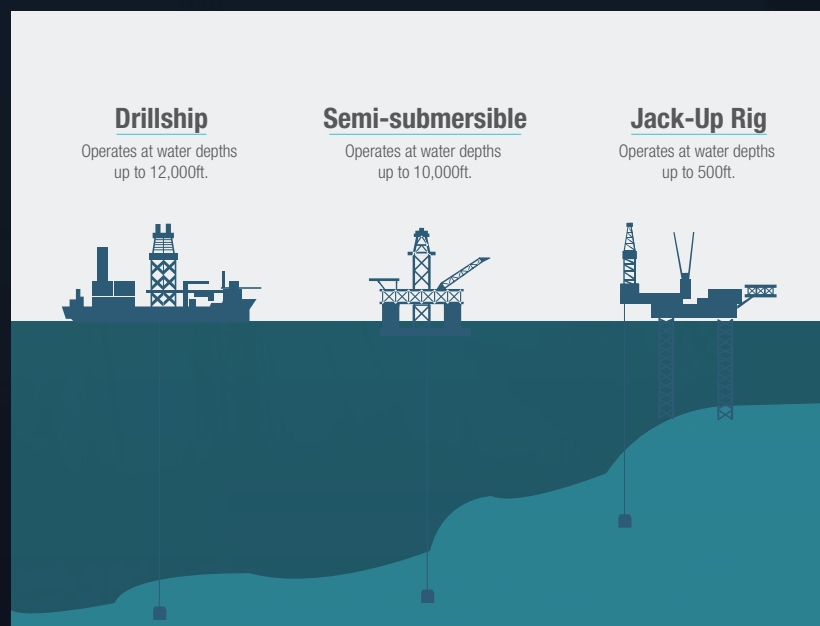
A jack-up rig is a platform that stands above the water level and normally consists of three legs that reach down the sea floor. Those legs can be jacked up so that the rig can move to the position where it is supposed to drill next. This type of rig can only operate in up to 500-feet-depth waters; however, it drills most of the offshore wells in Egypt thanks to its several advantages. First, it is less expensive to build than the other offshore rigs; second, it needs a smaller crew; and third, it has less maintenance costs. It represents 74% of the total offshore rigs and 7% of the total rigs in Egypt during the year from October 2017 and September 2018.

DRILLSHIPS

A drillship is exactly as it sounds: a ship-based vessel that is designed to carry out drilling operations from mid-water to ultradeep-water areas that reach water depths of up to 12,000 feet. The drilling equipment is built up on the deck, with the derrick placed in the middle of the ship, below which there is an opening that the well is drilled through. Drillships have the advantage, which semi-submersible lack, of carrying a variable deck load. Although they are not as stable as semi-submersible rigs in rough water, they can be relocated from one place to another much faster. Drillships represent 14% of the total offshore rigs in Egypt.

SEMI-SUBMERSIBLE RIGS

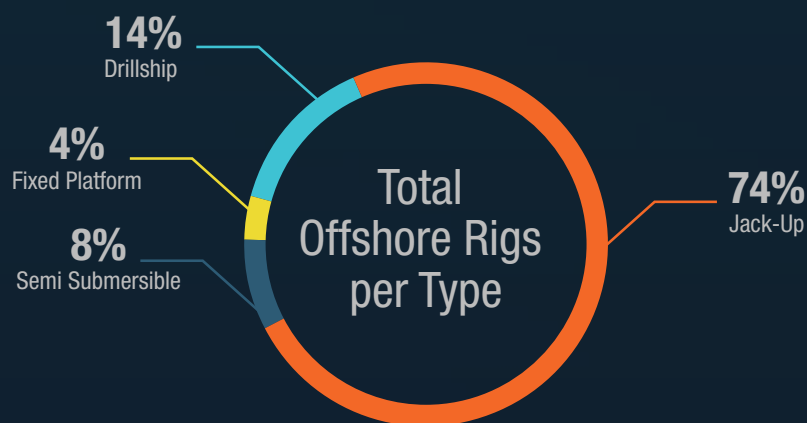
Semi-submersible rigs are the most common type of offshore drilling rigs in the world. The rig is partially covered with water, but still floats above the drill site. While drilling, the lower hull is filled with water, which gives the rig significant stability unlike the jack-up rig. In addition to this advantage, and with technology



development, a depth of 10,000 feet can be achieved easily and safely by the rig. However, this technology increases the operating cost, which can vary between around \$200,000 and \$450,000 per day. Semi-submersible rigs represent 8% of the total offshore rigs in Egypt.

FIXED PLATFORMS

Fixed platform rigs are built on concrete or steel legs anchored directly inside the sea at the well location, which makes the rigs very stable. The more wells there are to drill, the more attractive the platform rig becomes, as they have the lowest per-day cost. However, they cannot reach deep-water floors. Fixed platforms represent only 4% of the total offshore rigs in Egypt.



ONSHORE RIGS

This category of rigs represents the first development in drilling operations. Land rigs come in different sizes and strengths. They are classified based on two main criteria: maximum drilling depth and mobility. Egypt has two types of onshore rigs: land-drilling and land workover. They are used in onshore fields in the Eastern Desert, the Western Desert, and Sinai.

LAND-DRILLING RIGS

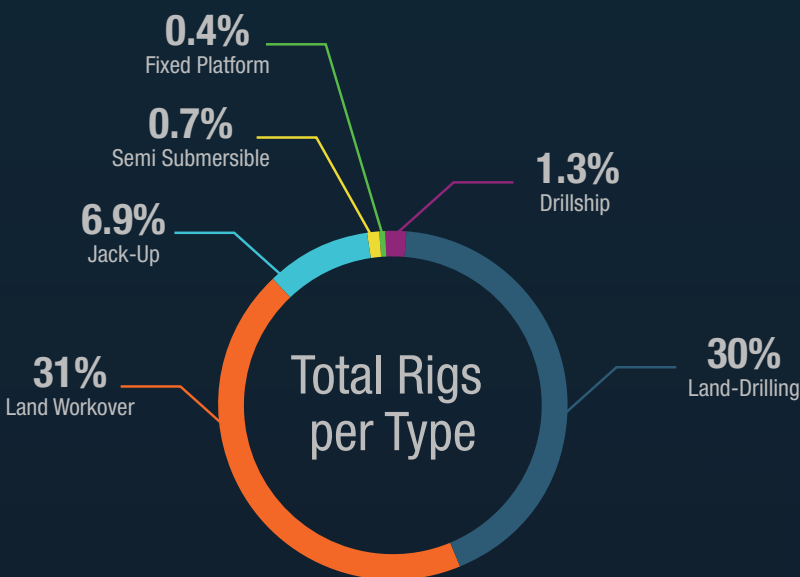
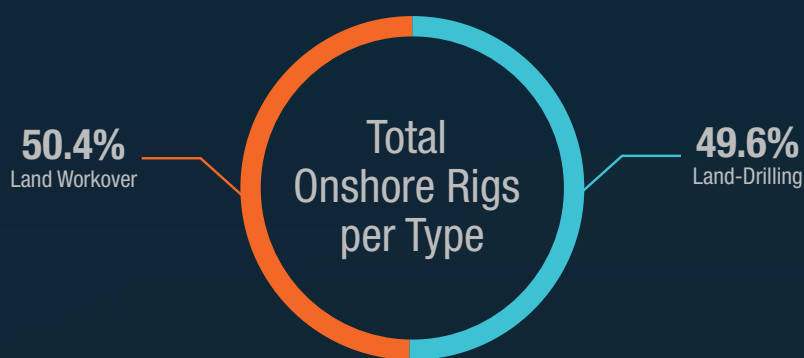
Drilling rigs are machines that basically create holes in the earth subsurface. A land-drilling rig is one of the most important pieces of oilfield equipment. Land-drilling rigs are used during several stages throughout the life cycle of oil and gas fields. They can be available with different sizes and power capabilities, and can be used in different applications.

The supply market of land-drilling rigs is divided into rig manufacturers and land-drilling services suppliers, which supply supportive services including the rig crew and other drilling equipment. Land-drilling rigs represent 49.6% of total onshore rigs and 30% of Egypt's total rigs.

LAND WORKOVER

Workover rigs are available for both onshore and offshore purposes. The land workover rigs are mainly used during the production stage, as they are used for a workover program and well repair, production enhancements or for other well treatments.

The types of workover rigs range from 150 to 1,000 horsepower. They have a surface depth that is equipped with diesel engines and transmissions, and is available from 8000 to 30000 feet. Land workovers represent 50.4% of total onshore rigs and 31% of Egypt's total rigs.



OFFSHORE VS. ONSHORE RIGS

There are two aspects to compare between offshore and onshore rigs in terms of efficiency: timeline and cost. As for timeline, offshore drilling contracts last for longer time than the onshore ones. Onshore drilling requires less of a time investment as many inland rigs can drill oil in a matter of months.

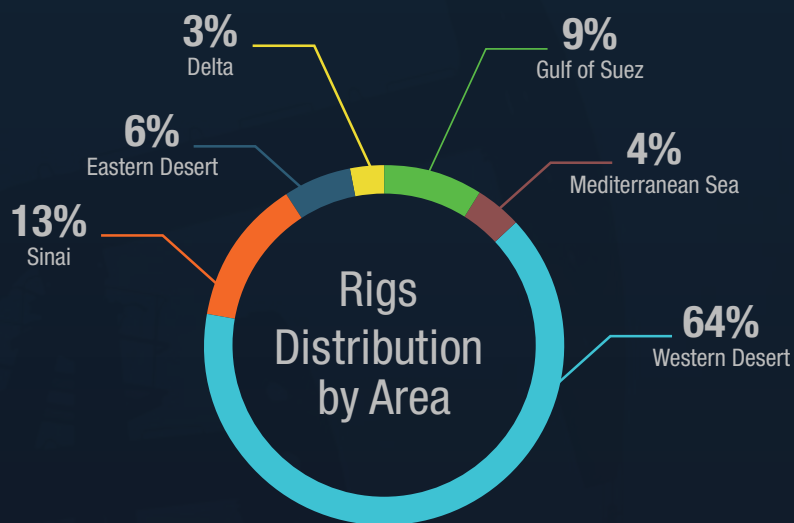
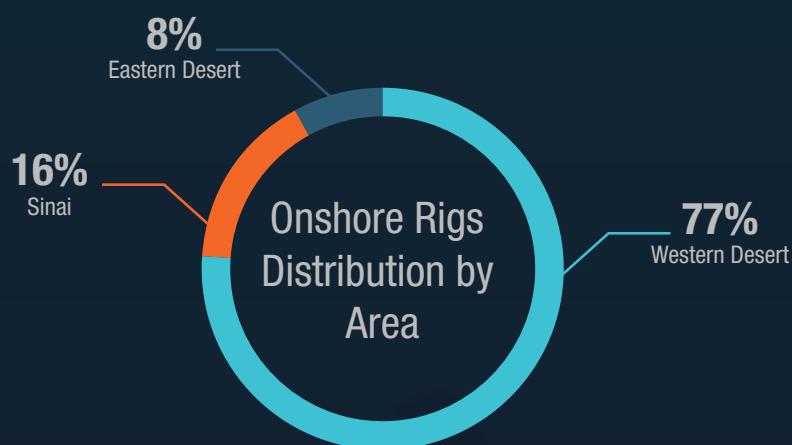
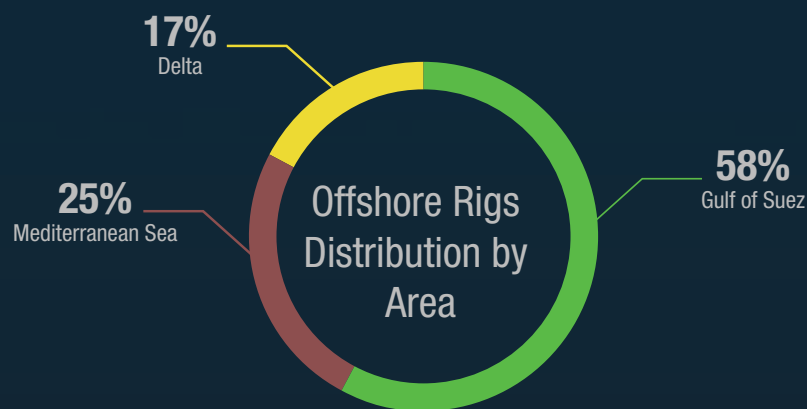
Given the long timeline of offshore drilling contracts compared to onshore, in addition to the added risks, offshore drilling requires more initial investments. However, the profitability rates of offshore drilling rigs have been improving. As for onshore drilling rigs, the cost can be lower, since the timeline of the contract is often shorter.

RIGS PER AREA

Rigs are spread across Egypt's hydrocarbon producing areas. Most of Egypt's rigs are located in the Western Desert, which contains around 64% of the total rigs in the country, followed by Sinai with 13%.

The Gulf of Suez's rigs represent the highest percentage of the total offshore rigs per area in Egypt, reaching 58%, while the Mediterranean Sea represents 25%, and the Delta only 17%.

On the other hand, most of the onshore rigs exist in the Western Desert as it has approximately 77% of the total onshore rigs in Egypt, while Sinai represents 16%, and the Eastern Desert only 8%.



Although the country is known for its offshore fields, the Egypt's rig market features show that the oil and gas industry depends more on the onshore rigs, representing around 61% of total rigs, while the offshore rigs represent only 9%. It is worth mentioning that the remaining 30% are considered as standby rigs, which are awaiting decision from the investor or another party to start drilling.

