remotely operated vehicles, and hence nourish a good activity level for AHTS and platform supply vessel (PSV).

The last couple of years have seen a large influx of AHTS ships originating from the contract boom in the years before the financial crisis and the trend continued into 2011 with almost 200 ships leaving yards worldwide. Fortunately for owners in this segment, we are now at the end of the AHTS delivery wave, and the orderbook for the coming years is more modest for larger ships. The situation is different for PSVs. More than 100 new orders were placed in 2011, and almost 50 ships have been ordered so far this year, adding to an already bulging orderbook. We will experience two to three years with a rapidly growing fleet of PSVs, especially large PSVs of more than 4,500dwt. Many of these are targeted for Brazil, Australia and West Africa, but some of these will search for work in the North Sea. As charterers prefer new ships over older ships, this is a threat to the existing ships, which might need to mobilise to other areas (with lower day rates).

The recent year's exploration frenzy has been good for the supply/demand balance in the North Sea. The high oil price has justified exploration drilling in 'expensive' areas with harsh environments and/or large water depths, and many ships have been mobilised out of the North Sea. Examples are the 10 to 12 ships chartered to Cairn Energy for drilling in Greenland, and several ships mobilised to the Mediterranean Sea to support the deepwater drilling in Egypt. The current anxiety relating to the development of the oil price may affect the attractiveness of exploration campaigns where high-end tonnage is needed.

Currently, the supply/demand relation is only at balance at peak activity periods. This means that most of the time there is quite a lot of idle tonnage, often as many as about 10 to 12 ships fighting for work.

The first half of 2012 has been very volatile. Large PSVs could obtain about £10,000 per day in the beginning of the year (£20,000 for a large AHTS). A few months later, in March and April, the same ship could obtain £22,000 (large AHTS £40,000), and today (early July) the fixing level is again down at about £10,000 for large PSVs (about £25,000 for large AHTS). The number of ships trading in the North Sea is expected to increase, with more than 10 new PSVs in the next couple of months, most of them leaving the yard without firm work. The number of new ships entering the market is likely to keep the utilisation low in the short run, but hopefully for the owners of North Sea tonnage the market will pick up as a result of the renewed optimism.

Mobile offshore drilling unit

Offshore market commentary

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The following commentary is taken from Clarksons' annual Mobile Drilling Register and provides a basic introduction to the sector and a review of key developments in this important and quickly growing market. The commentary was produced by the Offshore Market Research team at Clarksons Research and their managing director, Steve Gordon, would be happy to discuss any feedback readers may have. Clarksons Research produce registers reviewing each of the major offshore fleets and oil producing regions, details of which can be found at www.crsl.com.

Mobile Offshore Drilling Units (MODUs) are moveable structures designed to drill exploration, appraisal and development wells offshore. The MODU fleet comprises four major sub-groups: jack-ups, semisubmersibles, drillships and drill barges/tenders, each capable of performing drilling operations at different water-depths (see Figure 1).

Major sub-sectors of drilling rigs
Types and capabilities of drilling rigs

Jack-ups	→	**Up to 450ft water depth**
Semisubmersibles and drillships 'floaters'	→	**Latest generation can operate in up to 12,500ft**
Drill barges	→	**Shallow, non-propelled barges fitted with drilling equipment**
Drill tenders	→	**Sit on top of well head platforms, or moored alongside tension leg platforms**

Figure 1 – Overview of the MODU sector. Source: CRSL.

Offshore drilling operations range from benign, shallow-water locations in the Middle East and Asia/Pacific, through to ultra-deepwater areas offshore Brazil and West Africa. Moreover, offshore exploration and production (E&P) is increasingly moving into the harsh Arctic environments of the Beaufort Sea off Canada and Alaska, and the Norwegian and Russian Barents Sea.

The type of MODU structure used in any given location depends primarily on water depth and climatic conditions. Drill barges are shallow-water units designed for benign water conditions, and often operate on inland lakes and rivers. Drill barges are not self-propelled vessels, and instead must be moved to location by tugs. Jack-ups range from older, lower specification, mat-supported slot-type units, limited to water depths of up to 250–300ft, through to modern, independent leg cantilever units, capable of operating in depths of up to 450ft. Jack-ups are tugged into position, and are equipped with steel legs that are extended to the sea floor, allowing the structure's working platform to rest above the water.

Deepwater drilling often involves the use of a 'floater', in the form of a Semisubmersibles or drillships. Semisubmersibles use submerged pontoon-like structures that lower the unit partly underwater once it has moved to location. Semisubmersibles are the most stable type of floating MODU structure, and while the first generations of units were capable of operating in water depths up to 5,000ft, more recent generations can be used in depths up to and beyond 12,500ft (see Figure 2). Drillships, meanwhile, are capable of operating in almost any depth, and can be more easily moved from one location to another.

Floaters generations

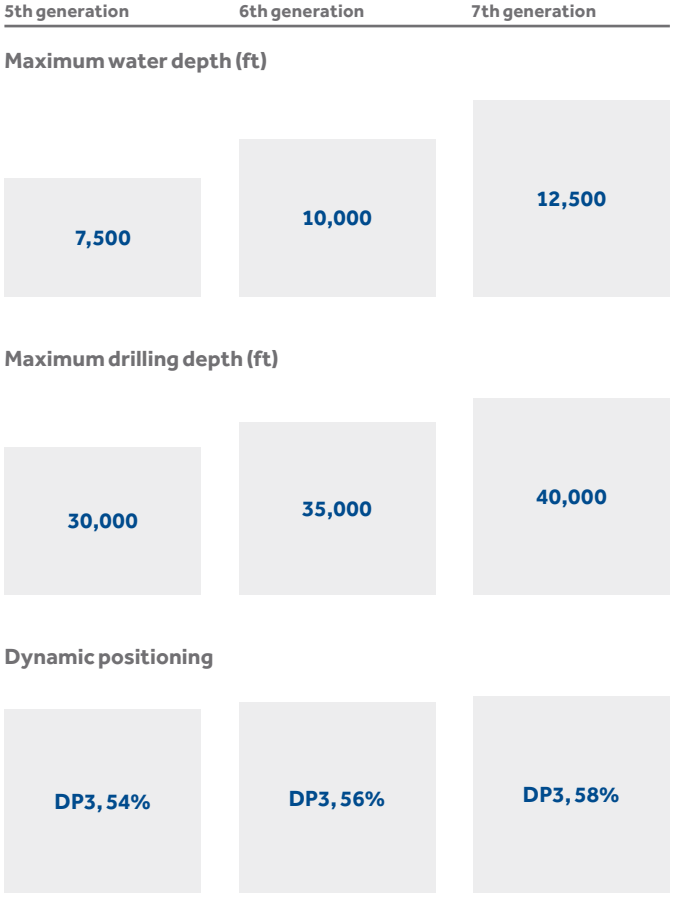

Figure 2 – Development of floating MODU designs. Source: CRSL

The MODU market is driven by the relative size of energy companies' budgets for E&P. As a result, the underlying dynamics of the market, as with all other offshore sectors, are oil price and global energy demand. Over the past decade, growing energy demand and rising oil prices have led to impressive growth in the MODU sector, with energy companies committing ever greater sums to invest in offshore drilling. As traditional centres for oil production continue to mature and decline, E&P is increasingly looking to offshore, and to remote and frontier areas in particular, to meet future demand.

Fleet development

In a little over 10 years, the MODU fleet has grown by 33%, from 729 units to a total of 970 units, as of 1 June 2012. The jack-ups sub-sector is the largest in the MODU fleet, with almost 52% of all units, while semisubmersibles, drill barges/tenders and drillships equate to almost 23%, 16% and 9% of the fleet respectively.

The changing profile of the MODU fleet over the past decade reflects the shift towards deeper water drilling. Increased numbers of jack-ups (over 300ft), semisubmersibles (over 5,000ft), and drillships have accounted for much of the growth in the MODU sector since 2002. Numbers of jack-ups (over 300ft) are up by 158% from 62 in 2002 to 160 today. Similarly, semisubmersibles (over 5,000ft) are up by 126% from 39 to 88, while the number of drillships has more than doubled from 40 to 83.

By contrast, drilling units designed for shallow-water operations today constitute a smaller proportion of the MODU fleet. Jack-ups (under 300ft) today make up 35% of all MODU, down from 43% in 2002, while drill barges have seen their share of the total fleet fall from 16% to 13% over the same period. 14 new units have been delivered into the MODU fleet so far in 2012. By the end of the year, a further 33 units are scheduled for delivery, which will bring the total figure for deliveries in line with the numbers seen in the latter part of the previous decade.

The increased numbers of drillships, deepwater jack-ups and deepwater semisubmersibles reflect the growing demand for MODU capable of operating in the remote, deepwater locations and harsh environments found offshore Brazil and West Africa, and in the Gulf of Mexico, the North Sea and more recently, the Arctic region.

Orderbook

The number of units on order in the MODU sector grew rapidly in the second half of the 2000s. Between 2002 and 2005, the average size of the MODU orderbook totalled just under 29 units, before rising to 62 units in 2006 and peaking at 179 units in 2009. The orderbook total fell in both 2010 and 2011, but has since recovered, and as of 1 June 2012 currently stands at 179 units (equal to 18% of the current MODU fleet).

The orderbook currently comprises 92 jack-ups, 21 semisubmersibles, 54 drillships, and 12 drill barge/tenders. Just under three-quarters of the 113 jack-ups and semisubmersibles currently on order are deeper-water units (i.e. jack-ups over 300ft and semisubmersibles over 5,000ft). Drillships have increased their share of the orderbook from 3% in 2002 to 30% today, reflecting the growth in demand for MODU capable of operations in deepwater and remote locations. Although their overall share of the orderbook has fallen in recent years, the steady number of jack-ups (under 300ft) and drill barges on the orderbook shows that there is still a requirement for MODU in shallow-water and benign locations in areas, such as the Middle East and Asia Pacific.

Contracting

Since the start of 2002, a total of 451 orders for MODU have been made, with the 10 years to the start of 2012 seeing an average of 42 new orders per year. Continuing demand for MODU capable of operating in deepwater areas has led to a spate of new contracts in recent years. Between 2002 and 2004, there were on average just nine orders each year, rising to 59 orders a year between 2005 and 2008. Orders peaked in 2008, when 77 contracts were placed for new vessels, before dropping to 30 and 35 contracts in 2009 and 2010 respectively. In 2011, the sector enjoyed a recovery, witnessing a record 94 new vessel contracts, although the trend for 2012 year-to-date is down by 26% on an annualised basis.

The major story in the MODU sector in recent years has been the growing shift towards deepwater drilling. Huge potential petroleum reserves have been located in hitherto undeveloped areas such as Brazil and West Africa, where extreme water depths prohibit traditional offshore drilling techniques. As a result, MODU with the capacity to operate in deepwater (drillships and semisubmersibles), have seen rapidly rising demand from operators and considerable recent investment (see Figure 3). Investment value in new build drillships has significantly outweighed investment in other MODU sub-sectors in recent years, although this trend has been less apparent so far in 2012. Investment value in jack-ups and semisubmersibles was at comparable levels in 2007 and 2008, but has since shifted significantly in favour of jack-ups.

Recent MODU investment trends

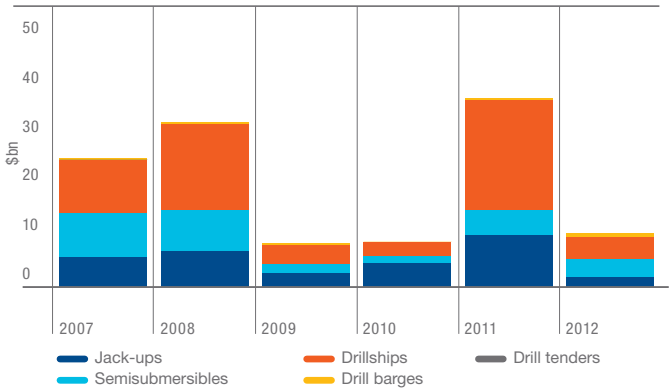

Figure 3 – Recent MODU investment by sector. Source: CRSL

With the onset of the global economic crisis in 2007 and 2008, the offshore industry witnessed a sharp downturn in drilling activity, and a concomitant drop in demand for MODU (see Figure 3). However, 2011 saw a recovery for the sector, and with high oil prices and strong demand expected for the foreseeable future, the general outlook for the sector is positive.

MODU new build prices

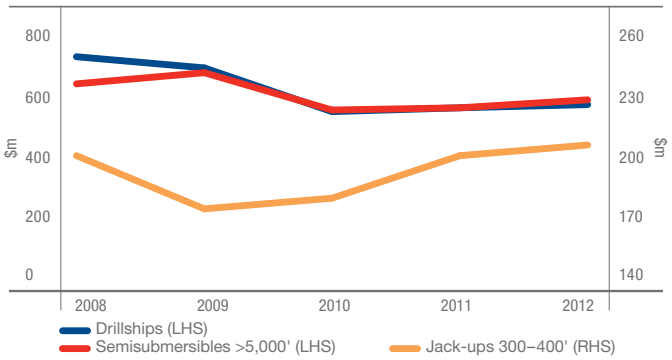

Figure 4 – MODU new building prices by sector. Source: CRSL

N.B. annual MODU prices for the period 2008–2010 are averages for the full year. The prices listed for 2012 are as of 1 June 2012.

Like most sectors in the maritime and offshore industries, MODU new build prices dropped off in the aftermath of the credit crunch and subsequent recession (see Figure 4). Despite previously strong demand, drillships prices saw the most significant fall, dropping from a $710m average annual price in 2008 to $538m in late 2010 (a decline of 24%). Prices for semisubmersibles saw a less marked decline, falling by around 18% from a 2009 high of $660m. New build prices for jack-ups, meanwhile fell 10% over the same period to an average of $180m. Since their 2010 nadir, new build prices for MODU have made a steady, if somewhat slow recovery. Average prices for jack-ups are today up by around 17% since 2009, while drillships and semisubmersibles have seen average price rises of 4% and 6% respectively since 2010.

Average charter rates

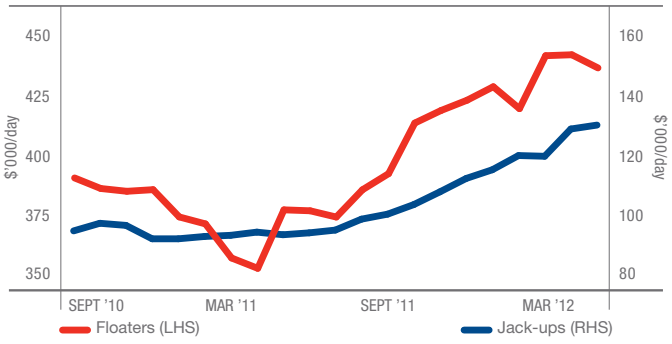

Figure 5 – MODU charter rates. Source: CRSL

In a further sign of market positivity, average MODU charter day rates have improved steadily in recent years (see Figure 5). Average floater (semisubmersibles and drillships) day rates have risen by 11% since September 2010, with average jack-ups rates up by 34% over the same period. Of the 29 orders placed so far this year, there have been contracts for 11 jack-ups, seven drillships, six semisubmersibles and five drill tenders. However, this figure could increase to around 70 units, if future new build options are taken up before the end of the year.

Utilisation

MODU utilisation figures were significantly down following the start of the global economic downturn in 2007 and 2008, as demand for vessels dried up (see Figure 8) and in the aftermath of the *Macondo* oil spill in April 2010. From a mid-2008 high of 92% and 93% respectively, jack-ups and floater utilisation rates dropped as low as 71% and 84% in early 2011. Over the past 12 months, however, utilisation rates have made a significant recovery, as demand for drilling units has picked up. In June 2012, utilisation rates had reached 77% for jack-ups, and 88% for floaters.

Floater and jack-ups utilisation

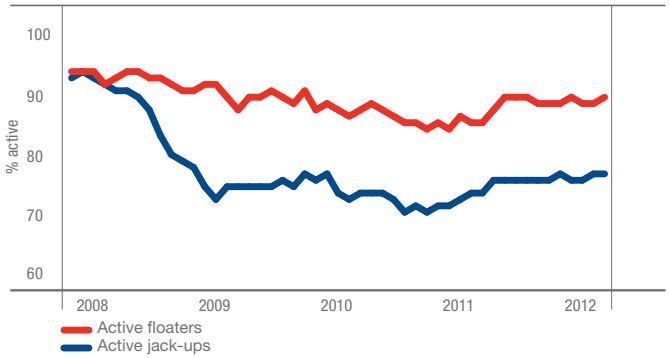

Figure 6 – MODU utilisation. Source: CRSL

Deliveries

There have been a total of 274 deliveries into the MODU fleet since the beginning of 2002 and an annual average of 26 in the 10 years to the start of 2012. Deliveries increased rapidly after 2007, in line with higher contracting levels from 2005 onwards. Between 2002 and 2006, deliveries into the fleet averaged just 10 units per year, before rising to an annual average of 42 units between 2007 and 2011, and a high of 51 in 2009.

A number of companies have significantly increased their MODU fleets in recent years. Seadrill's current fleet includes 32 MODUs delivered since the start of 2002, while China Oilfield Services Ltd (COSL), ENSCO and Transocean currently have 19, 18 and 16 units respectively that were delivered over the same period.

Deliveries in 2012 are currently down by 34% on an annualised basis. In spite of this drop, recent deliveries continue to reflect high demand for deepwater drilling. Of the 14 units that have entered the fleet so far this year, six have been drillships, along with three large semisubmersibles.

Removals

Removals from the MODU fleet, including scrappings, conversions and total losses, have been relatively limited in recent years. Since the start of 2002, a total of 32 units have left the fleet, 24 of which have been either drill barges or jack-ups (under 300ft) and semisubmersibles (under 5,000ft).

Notable jack-ups losses include the Russian built '*KOLSKAYA*' platform, which sank during violent storms whilst under tow from Kamchatka, off Sakhalin Island in December 2011, and the Chevron chartered '*KS ENDEAVOR*', which was irreparably damaged by fire whilst drilling off Nigeria in January 2012. A further eight jack-ups have been reported as total losses since 2000 in the wake of hurricanes Lilli, Katrina and Ike in the US Gulf of Mexico.

Semisubmersible casualties include the *'ABAN PEARL'*, which sank off Venezuela in 2010, following a problem with its floatation system, and the much publicised loss of the *'DEEPWATER HORIZON'*, which experienced a blowout while drilling the deepwater *Macondo* well in the US Gulf of Mexico.

Fleet deployment

As of 1 June 2012, the fleet for jack-ups, semisubmersibles and drillships stands at 810 units, of which 657 units are currently under deployment.

The leading region for jack-ups deployment has been the Middle East/ ISC, which currently hosts 32% of all units that are currently deployed globally. The Asia Pacific and North America have the second and third largest deployment of jack-ups units, with 23% and 18% respectively.

South America has the largest share of floater MODU with 31% of all units that are currently deployed worldwide. North West Europe and North America also have sizeable shares of the floater fleet, both with 16% of global units.

Regional MODU demand changes since 2007

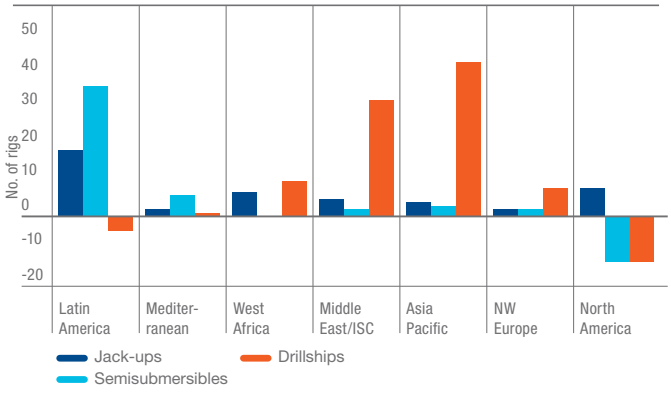

Figure 9 – MODU deployment changes by region. Source: CRSL