



The construction boom in the 1980s means that there are more than 300 rigs still operating that will need a major class renewal project in the next 3 years

Defining, planning and executing these projects will place a strain on resources, systems and capacity in shipyards around the world

Adding in the recent newbuild activity means the scale of the challenge facing the industry is high

Some Drilling Contractors face more of a challenge than others

**Keeping them working - the SPS challenge facing the Industry**

## Introduction

The offshore rig construction boom in the late 1970s and early 1980s resulted in more than 450 mobile offshore drilling units coming into the market.

The recent construction boom has, in part, been to address the ageing profile of those rigs however of those rigs more than 300 are still drilling with only 57 having been retired, converted or cold stacked.

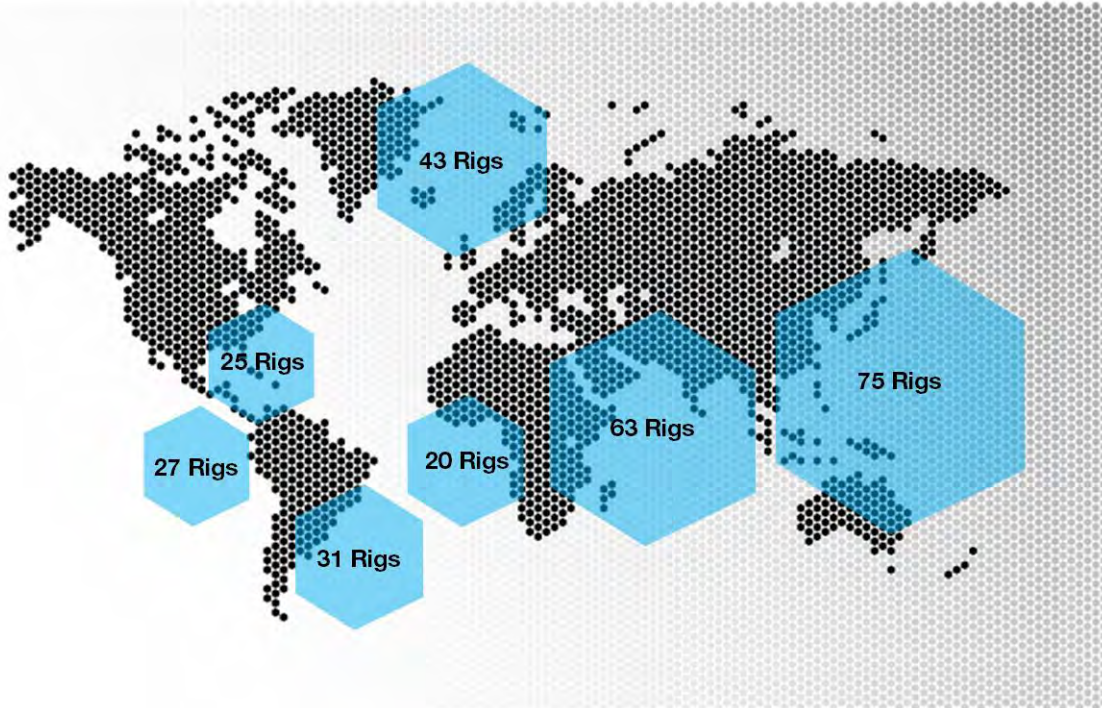
With more than two thirds still operational a peak in major special periodic survey and class renewal activity at 35 and 40 years old is about to hit the industry. In the years between 2016 and 2017 there are 235 of those rigs due to go through this process.

Defining, planning and executing these projects presents a unique set of challenges to the Drilling Contractors and the decision to invest large capital expenditure to keep the rigs operational and marketable is often marginal on a financial basis. For many years these rigs have been the workhorses of the offshore worldwide fleet even with the recent trend has been towards higher specification rigs.

However with the speculative build standard specification units, Jackups in particular, due to be delivered in the coming years, what is the future for the remaining rigs from that construction boom?

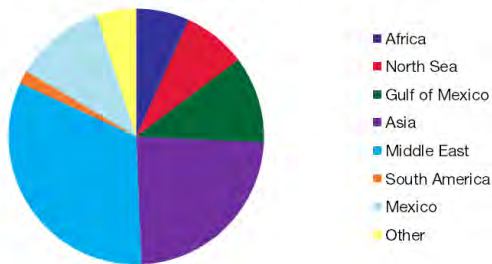
## Where are they now?

The 300 or so rigs that are still drilling are spread around the world.

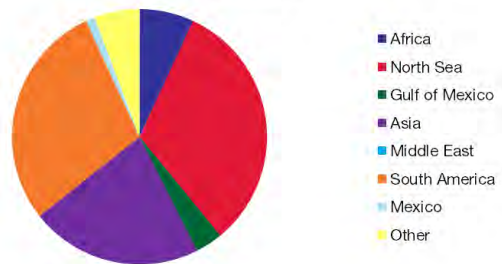


The majority of Jackups are in the Gulf of Mexico, Middle East, Asia and Mexico. The Semisubmersibles from that period are in the Asia and South America with the North Sea having an even mix of Jackups and Floaters. The following charts illustrate this difference further

**Location of Jackups from the 1980s Construction Boom**  
Source: Epeus Database



**Location of Semisubs from the 1980s Construction Boom**  
Source: Epeus Database



The majority of those rigs have remained in the region for a number of years in particular those in established basins such as the North Sea, Gulf of Mexico and Persian Gulf.

Although around 15% of the rigs from the last construction boom have been retired, converted or are cold stacked a large number remain operational as the next table shows.

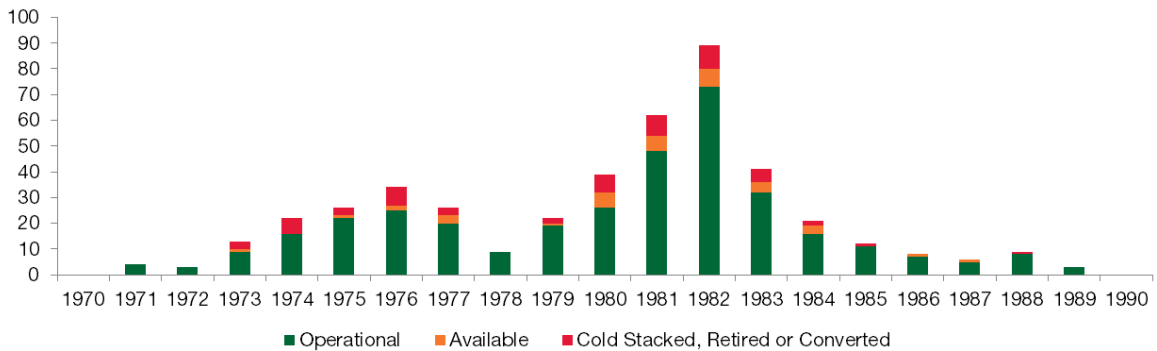
	Jackups	Semisubs	Drillship	TOTAL
<b>Built</b>	<b>313</b>	<b>129</b>	<b>20</b>	<b>462</b>
Drilling	214	87	12	313
Inspection or Modification	24	10	3	37
Ready Stacked	27	6	3	36
Cold Stacked	39	17	1	57

Source: Epeus Analysis, RigLogix Database

This means that almost 80% remain operational and are earning revenue for the organisations that own those rigs.

**Status of Rigs built in the 1980s Construction Boom**

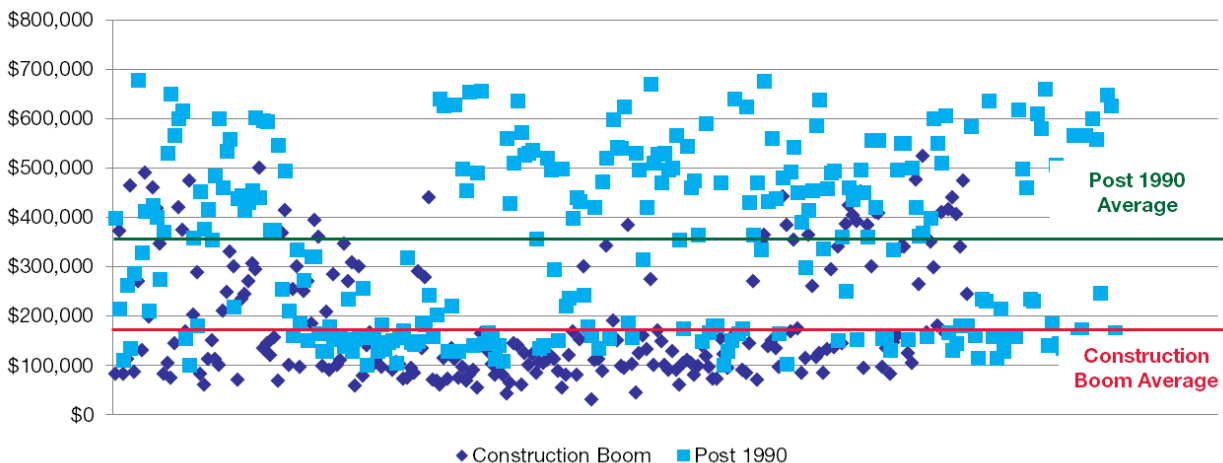
Source: Epeus Analysis



The widely held view is that these rigs earn lower day rates than newer and more recently constructed rigs and the analysis would appear to back that up. Taking the current industry averages for Jackups, Semisubs and Drillships and comparing to the rates of those rigs from the 1980s construction boom that are still operational shows that day rates are between 15% and 20% below the overall market level on average. The same comparison against rigs built since 1990 shows that the variance is even greater at between 25% and 35%.

**Spread of MODU Day Rates based on Construction Period**

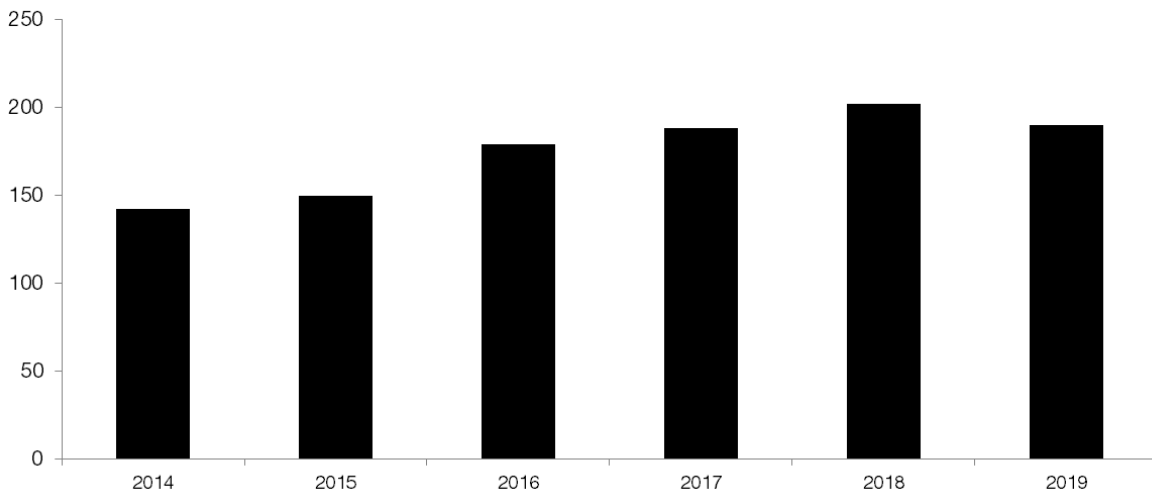
Source: Epeus Analysis, RigLogix Database



## The challenge facing the Industry

As the previous sections show, a lot of the rigs from the last construction boom are still operational and in the next 5 years will go through their 30, 35 or 40 year Special Periodic Surveys (SPS). Obviously the entire offshore rig fleet cycles through the 5 yearly SPS projects and so these rigs are just part of a bigger picture as shown below.

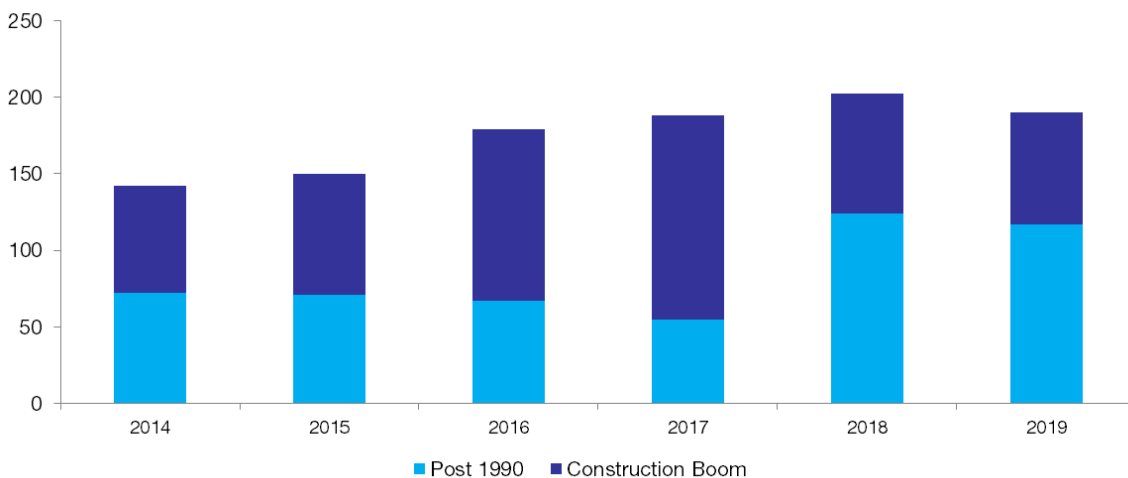
**All SPS Projects by SPS Type and by Year**  
 Source: Epeus Analysis, RigLogix Database



However in the next 3 years the majority of the rigs from the last construction boom are due a major SPS, a product of the fact that the busiest years for construction were 1980, 1981 and 1982 as well as 1976 and 1977.

This means that a total of 285 rigs will need either a 35 or 40 year SPS between 2015 and 2017.

**All MODU SPS Projects by SPS Type and by Year**  
 Source: Epeus Analysis, RigLogix Database



The ownership of these rigs, and therefore the challenge to define, plan and execute the activity is spread across the Drilling Contractors and as you would expect the majority of the fleet is owned by around 10 organisations as shown below.

	2014	2015	2016	2017	2018	Total
Transocean	7	2	10	7	15	41
Noble	1	2	5	1	0	9
Paragon Offshore	6	6	11	18	1	42
Diamond	6	6	8	7	8	35
ENSCO	3	5	9	14	4	35
Hercules	6	5	9	11	3	34
COSL	2	4	2	4	3	15
Shelf Drilling	4	6	7	13	6	36
Rowan	2	3	4	2	1	12
Nabors Offshore	2	2	3	3	1	11
National Drilling	1	3	0	5	1	10

Source: Epeus Analysis, Drilling Contractor Presentations

What makes each of these Drilling Contractors different however is

- How these older rigs fit into their overall fleet
- What their strategy for dealing with Ageing Rigs has been in the last 2 – 3 years
- What their overall business strategy for growth and development is

For example Transocean’s rigs that are due their 30, 35 or 40 year SPS are almost entirely Semisubs as the recent business strategy has been to divest their older Jackups which culminated Shelf Drilling being set up. In addition they have some consistency of design and operating regions within the fleet which will make defining and planning the projects more manageable.

ENSCO have a similar opportunity with Jackups making up 29 of the 35 rigs and most of them being in mature regions that should have the infrastructure to support the projects. ENSCO has taken a more piecemeal approach to divesting assets than Transocean and as it approaches 2016 and 2017 where there is a peak in activity we may see that change?

Hercules have a fleet that is comprised almost entirely of older Jackups working in the Gulf of Mexico and so have the advantage of economies of scale and applying a consistent approach.

The next table summarises some of the differences in challenges in respect to SPS

Drilling Contractor	Rig Types	Design Similarity	Main Regions
Transocean	Semisubmersibles	Some consistency and duplication	Worldwide but some concentration in North Sea, West Africa and South East Asia
Noble	Mix of Semisubmersibles and Jackups	Little consistency or similarity	Middle East
Paragon Offshore	Mostly Jackups with some Semisubmersibles and Drillships	Some consistency and duplication	Worldwide but some concentration in North Sea, Middle East and Mexico
Diamond	Mostly Jackups	Little consistency or similarity	Mostly in North and South America
ENSCO	Mostly Jackups	Some consistency and duplication	Worldwide with no obvious dominant region
Hercules	Jackups	Some consistency and duplication	Nearly all Gulf of Mexico
COSL	Mix of Jackups and Semisubmersibles	Little consistency or similarity	All in the Far East
Shelf Drilling	Jackups	Some consistency and duplication	Asia, Middle East and West Africa
Rowan	Jackups	Some consistency and duplication	Mostly Gulf of Mexico and Middle East
Nabors Offshore	Jackups	Little consistency or similarity	Mostly Gulf of Mexico and Middle East
National Drilling	Jackups	Some consistency and duplication	Middle East

Source: Epeus Analysis, Drilling Contractor Presentations, RigLogix Database

## It's not just the older Rigs

There are also around 200 rigs that were built post 1990 that will require an SPS between 2015 and 2017 as part of the regular cycle. For more than half of those rigs this will be their first SPS project as they were delivered in the current construction boom between 2010 and 2012.

Adding those rigs to the ones from the last construction boom gives a view on which Drilling Contractors have the busiest workload in the next three years.

	2014	2015	2016	2017	2018	Total
Transocean	21	16	14	10	25	86
Noble	8	3	8	2	7	28
Paragon Offshore	6	6	11	18	1	42
Seadrill (inc NADL)	5	7	5	10	20	47
Diamond	8	6	9	7	9	39
ENSCO	10	13	14	21	9	67
Hercules	6	5	9	11	5	36
COSL	6	9	7	6	10	38
Shelf Drilling	4	6	7	16	6	39
Rowan	4	9	10	2	5	30

Source: Epeus Analysis, Drilling Contractor Presentations

The obvious peaks in activity include

- ENSCO with more than half of their rigs due an SPS in 2016 and 2017 and of those 35 rigs there are 23 that are 25 and 40 year renewals
- Seadrill in 2017 and 2018 with the rigs built in the last 10 years creating a major peak in activity
- Hercules have a similar challenge to ENSCO with 55% of their rigs due in 2016 and 2017 all of which are due a major SPS at 30, 35 or 40 years
- Rowan in 2015 and 2016 with 19 projects due which is 65% of all their rigs and nearly all of them 5 or 10 year SPS
- Both Shelf Drilling and Paragon Offshore have the added challenge to peaks in 2016 and 2017 with needing to embed management systems to define, plan and execute projects

However it is not just having a large number of projects that presents a challenge, there are also a lot of Drilling Contractors that have a large proportion of their fleet in % terms that need to be defined.



## Conclusions

The analysis in this paper shows that far from the predicted swathe of retirements of the rigs that were built in the 1980s the industry now faces the challenge of managing their continued compliance and classification renewal. Add to that the rigs that have been recently delivered and it means there will be a number of things to consider

- For the owners of the older rigs, the questions of whether to invest in life enhancement and continued renewal will once again be raised. If the promised newbuild rigs are delivered, in particular Jackups, then we may see a higher volume of retirements and assets being divested.
- For those Drilling Contractors with business models based around the standard specification and older rigs such as Shelf Drilling, Hercules and Paragon Offshore this may not present as much of a problem as they are set up to deal with this challenge.
- Shipyard capacity will be at a premium, in particular in regions where infrastructure and facilities are not as developed or mature. There is a limited amount of capacity and for the major SPS projects the duration of shipyard stay means that space could be occupied for long periods
- This type of project needs to be carefully defined, planned and executed to make the most of survey windows during operations and to minimise out of service periods during or between contracts. We know from experience that the level of scope definition needs to be high in the year prior to the project being executed in order to develop budgets and financial plans and that this presents an additional challenge in the 12 – 18 month period before the peak of activity.
- Along with shipyard capacity these peaks may place a strain on resources and in particular in the specific areas of expertise to define and plan the scope of work for the SPS projects.
- For a number of Drilling Contractors this volume of activity on this type of project is a new undertaking and the processes, systems and skills required are very different to a newbuild construction or business development project.

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