SUT Breakfast Brief

Wood Mackenzie

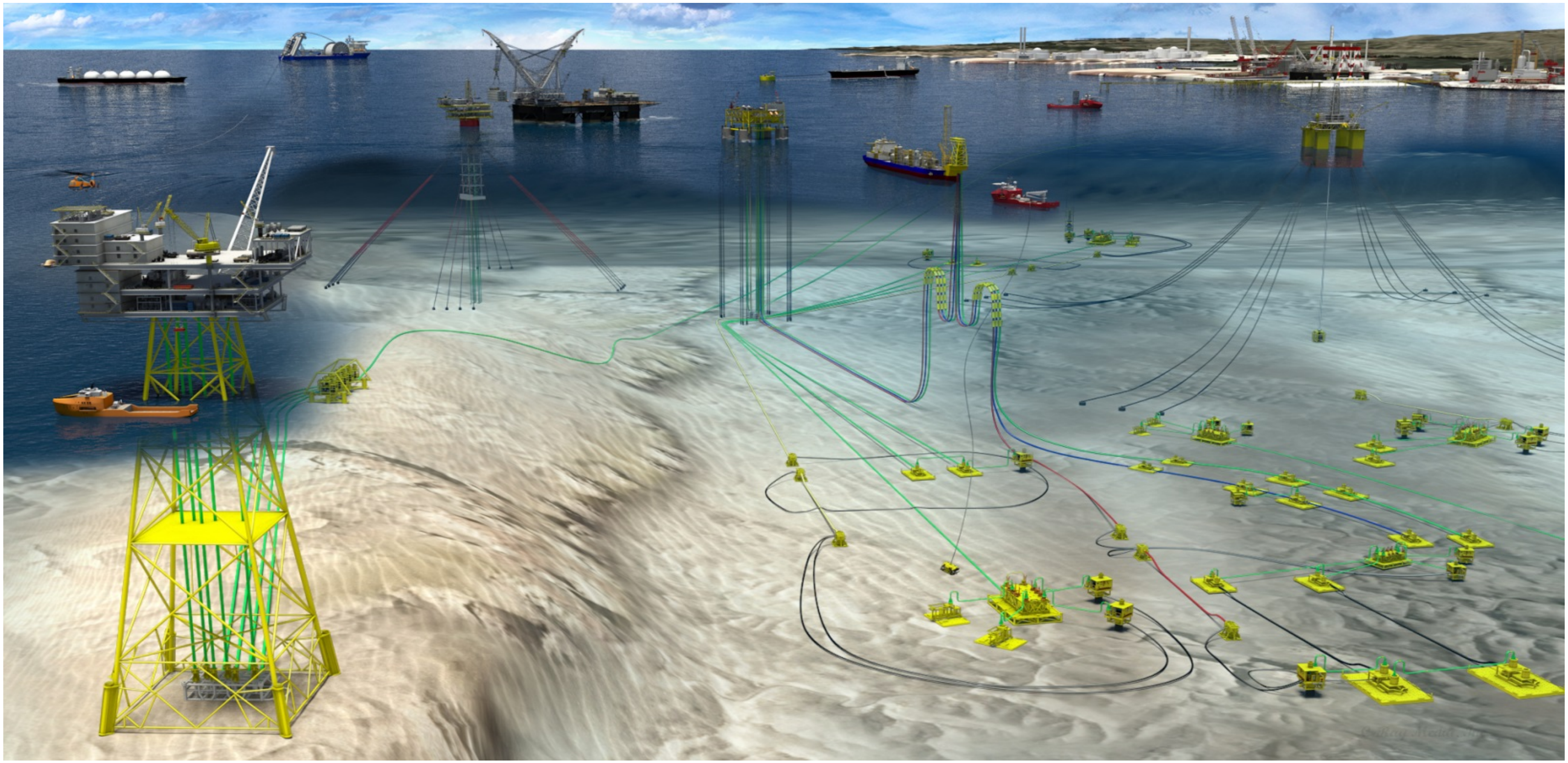
25th January 2018

Agenda

1. **Wood Mackenzie – Upstream Supply Chain**
2. Macro Indicators & E&P Capex
3. Sector Forecasts – Subsea/Drilling
4. Market Consolidation
5. Cost Movements & 2018 Expectations

Wood Mackenzie – Upstream Supply Chain Function

Infrastructure demand/operations & service supply – research & consulting



Upstream Supply Chain Service

- **Delivers the industry's most complete set of solutions for drilling/rigs, subsea, marine construction, and facilities and fabrication**
- **Offers an integrated view of the market with transparent data, analysis and models that link equipment, services, costs and supply chain risk to asset and corporate valuations**
- **Understand supply and demand, benchmark against peers, assess costs, and confidently guide strategy**

Use it to:

- Dive deeply into offshore contracting strategies and supplier relationships
- Forecast major deep water equipment demand
- Strategically compare operator development behaviors
- Identify future supply chain opportunities and FIDs
- Track cost trends within major market segments
- Analyze utilization and capacity of major supply chains

What Upstream Supply Chain can do for you

The industry's most complete set of solutions for drilling/rigs, subsea, marine construction, and facilities and fabrication

12,000+
exploration, appraisal and development wells

7,000+
subsea trees and associated equipment

10,000+
offshore developments

1,200+ offshore drilling assets

19,000+
fixed and floating production facilities

500+
marine construction assets

400,000+
kilometres of offshore pipeline

Use it to:

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For more information visit:
Wood Mackenzie Upstream Supply Chain

Agenda

Companies took drastic action after prices collapsed

Strategies have now moved from “survive” to “thrive”, but in a new state of the world

US$140 billion

Development capex cut 2016 vs. 2014 (-47%)

US$62 billion

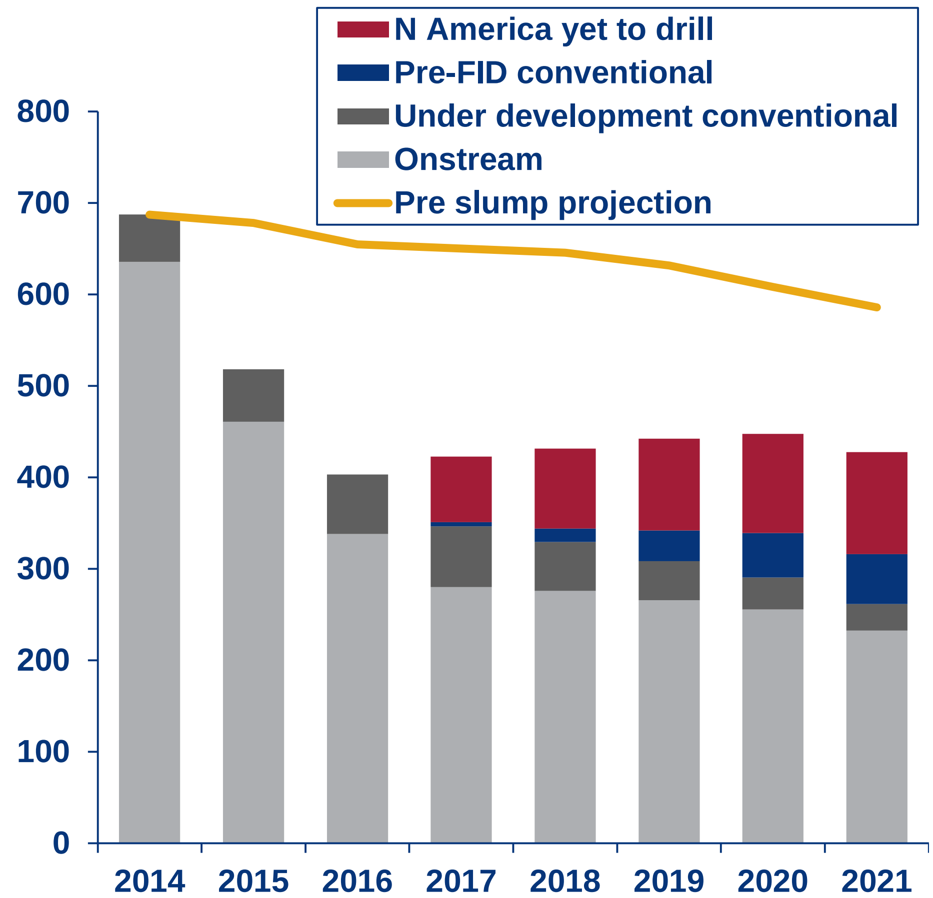
Cuts to shareholder distributions

US$130 billion

Asset disposals since mid-2014

Source: Wood Mackenzie Corporate Benchmarking Tool. Figures relate to 50 largest IOCs only.

Upstream capex ($ bn): Global

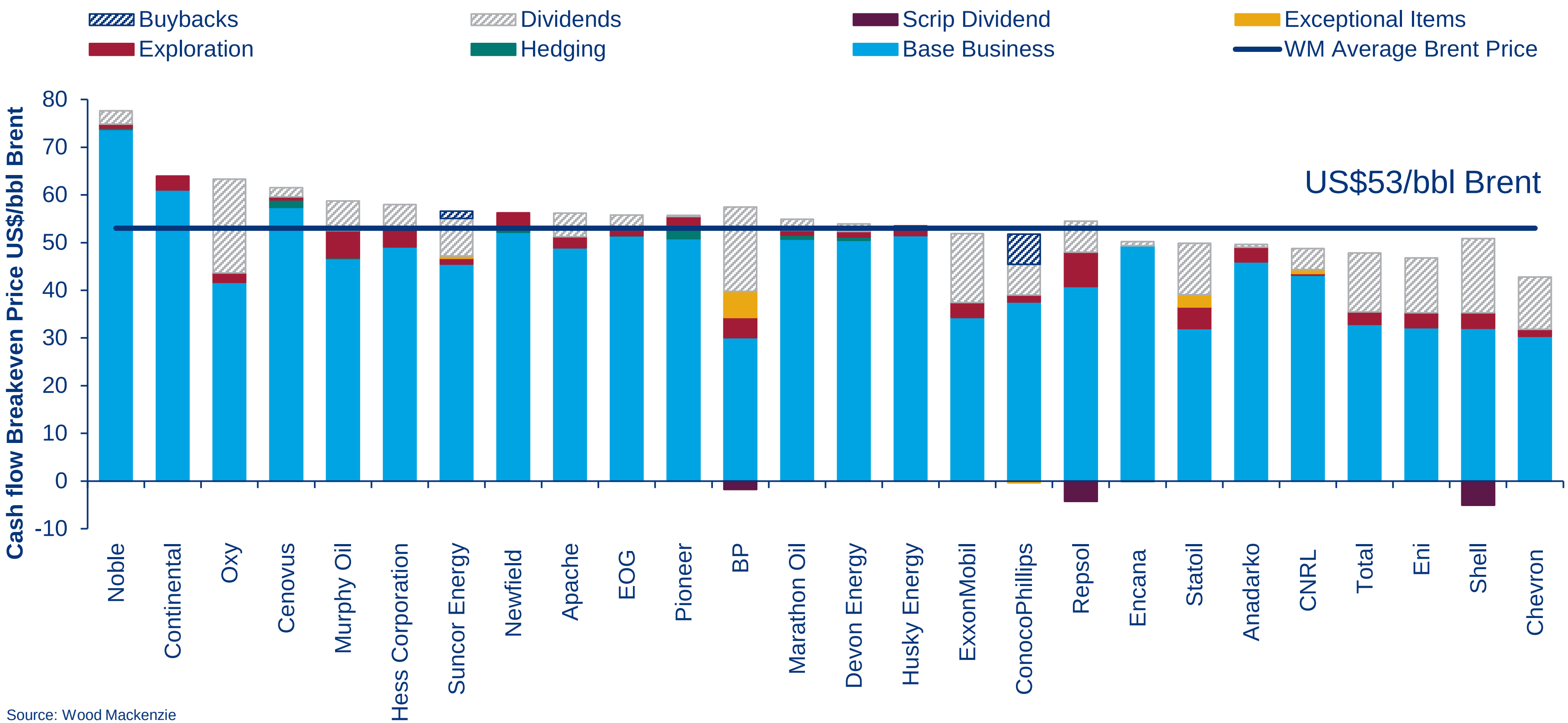


Source: Wood Mackenzie

We estimate the sector requires US$54/bbl Brent in 2018 & 2019

But a material uplift in price is required if we are to see significant cash flow generation and ultimately increasing shareholder returns.

Oil price required for cash-flow neutrality between 2018 and 2019



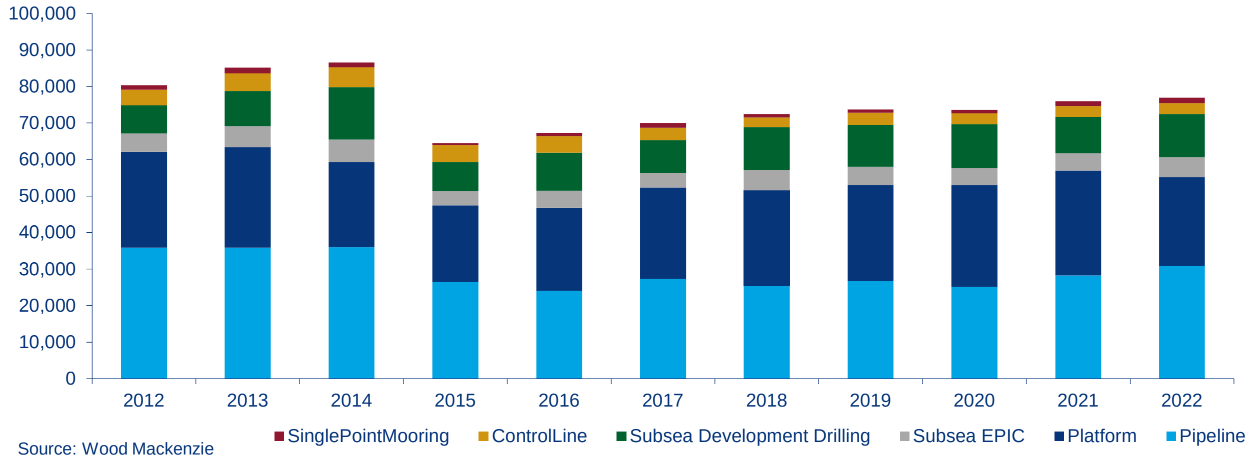
Source: Wood Mackenzie

Source: Argus, Wood Mackenzie forecast

Phased Offshore EPIC Capex

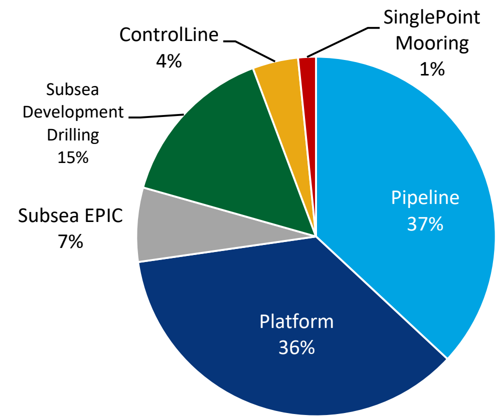
Pre-booked capital expenditure softens 2015 downturn as backlog burn plays out across the EPIC sector

Offshore Capex by Segment (US$m) (EPIC + Subsea Dev. Drilling)



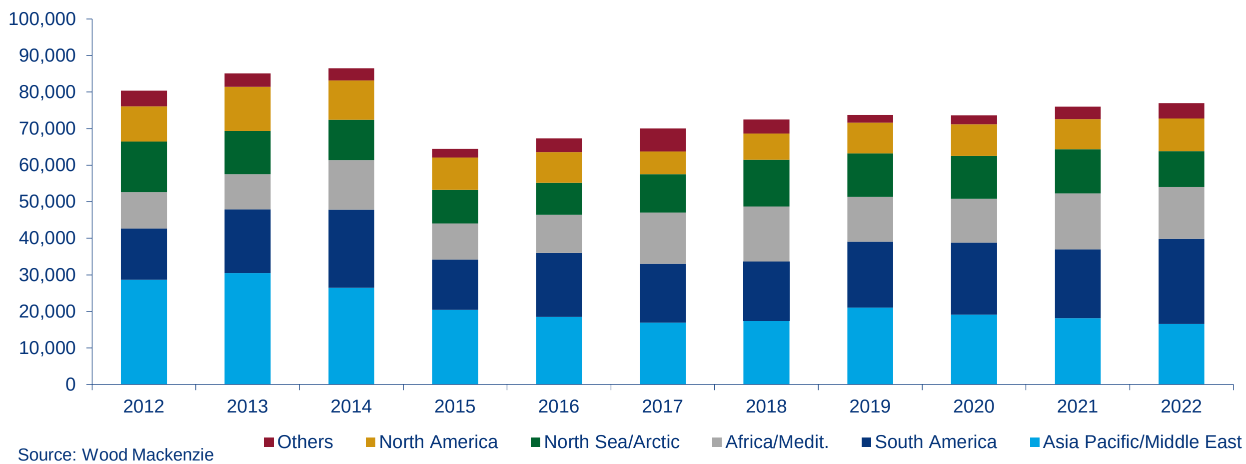
Source: Wood Mackenzie

2017-2022 % split



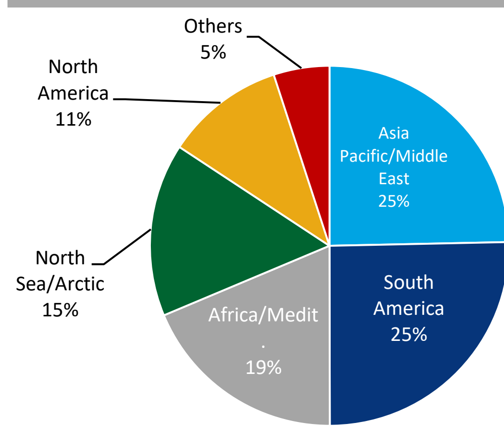
Source: Wood Mackenzie

Offshore Capex by Region (US$m) (EPIC + Subsea Dev. Drilling)



Source: Wood Mackenzie

2017-2022 % split

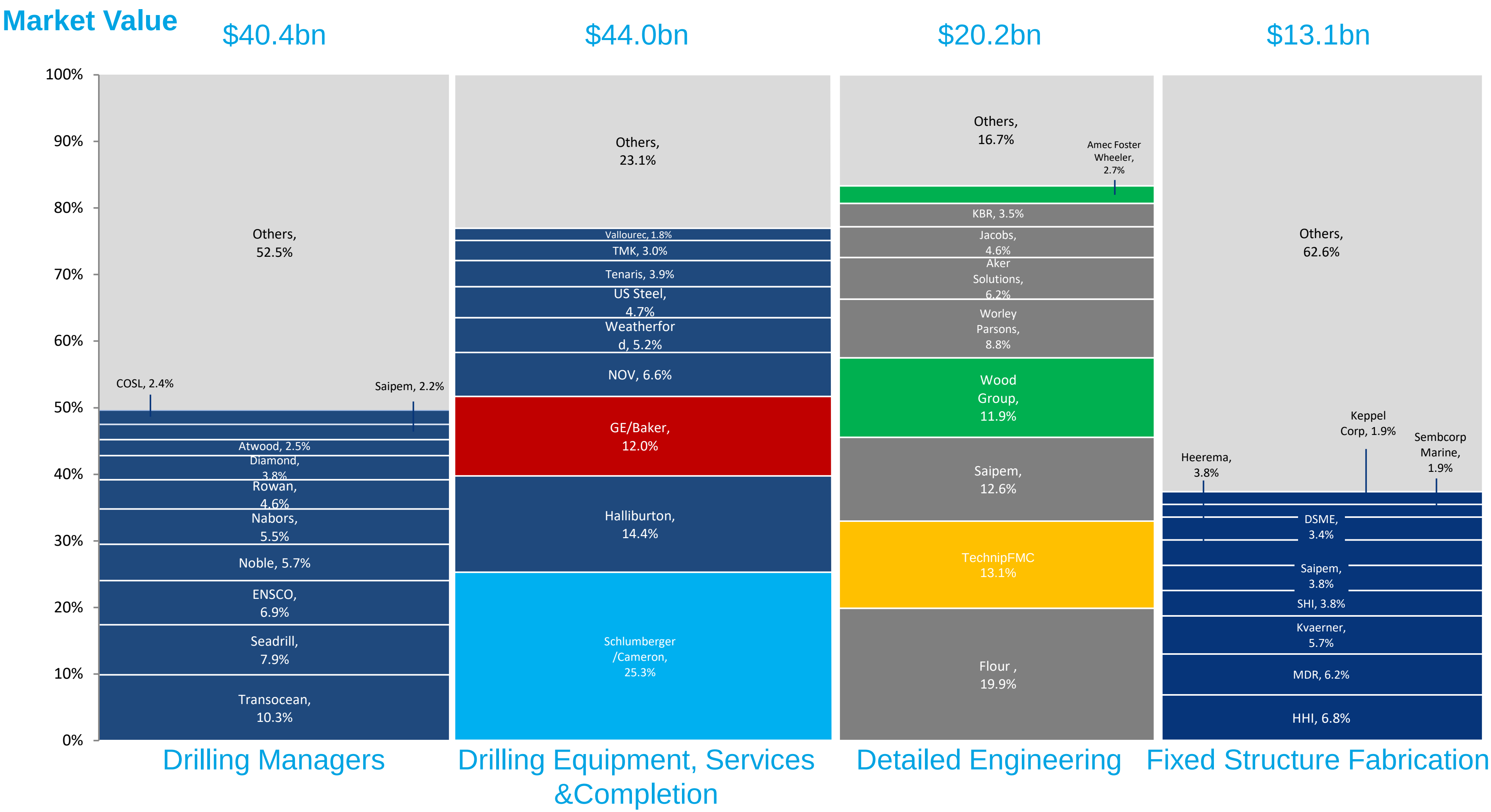


Source: Wood Mackenzie

Consolidation Impact on the Supply Chain

Recent consolidation across the sectors constitutes c.22% of the total 2016 Capex related OFS industry. 20% is controlled by the "big three" integrated EPIC contractors – Schlumberger/TechnipFMC/GE-Baker

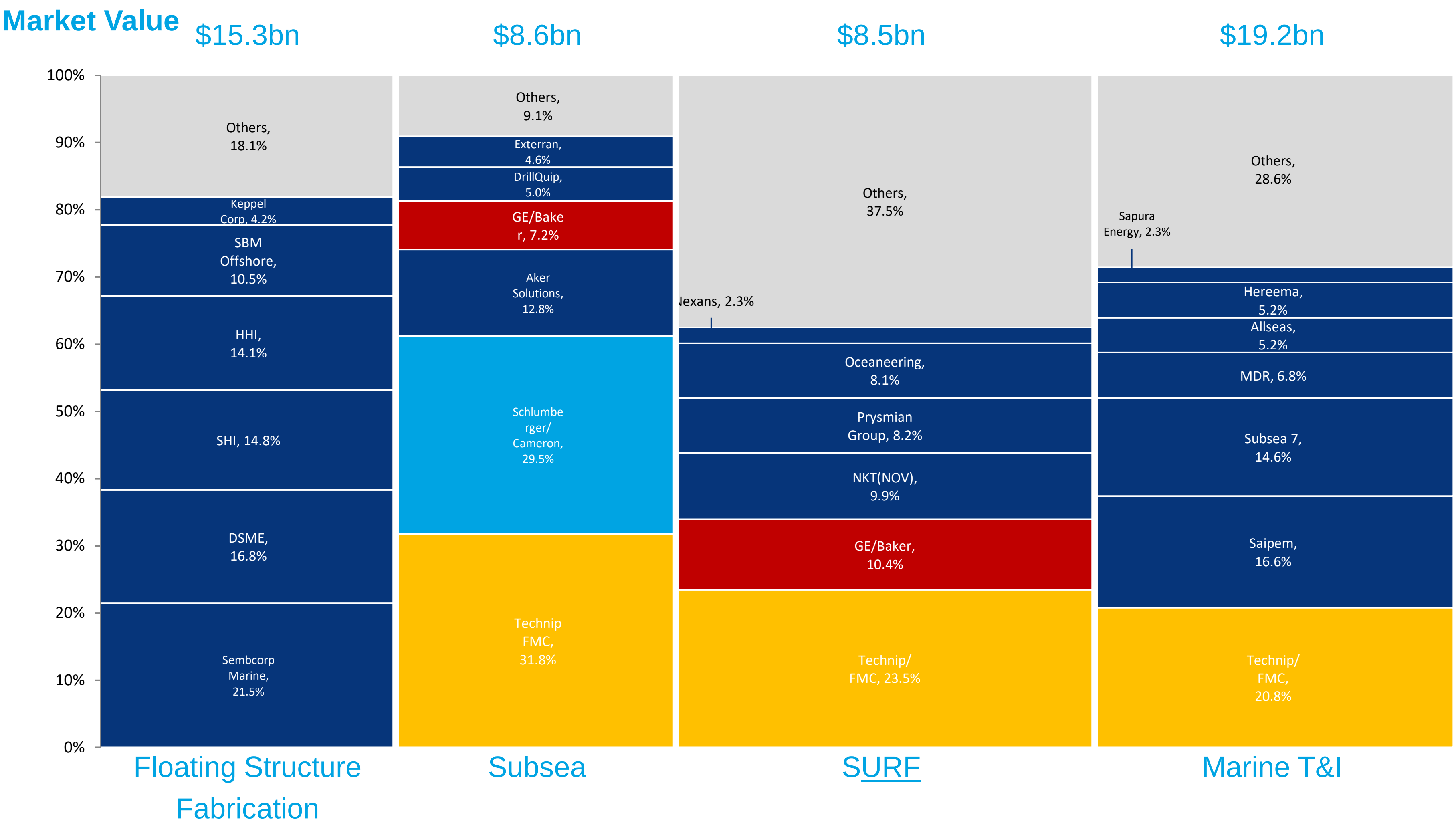
2016FY Service Sector Sizing & Market Shares



Consolidation Impact on the Supply Chain (Continued)

As of 2016YE: Schlumberger 8%, TechnipFMC 7%, GE/Baker 4%. The current Wood Group/AMEC deal, if successful, will suck up 2% of the total OFS market and 26% of the global engineering sector.

2016FY Service Sector Sizing & Market Shares



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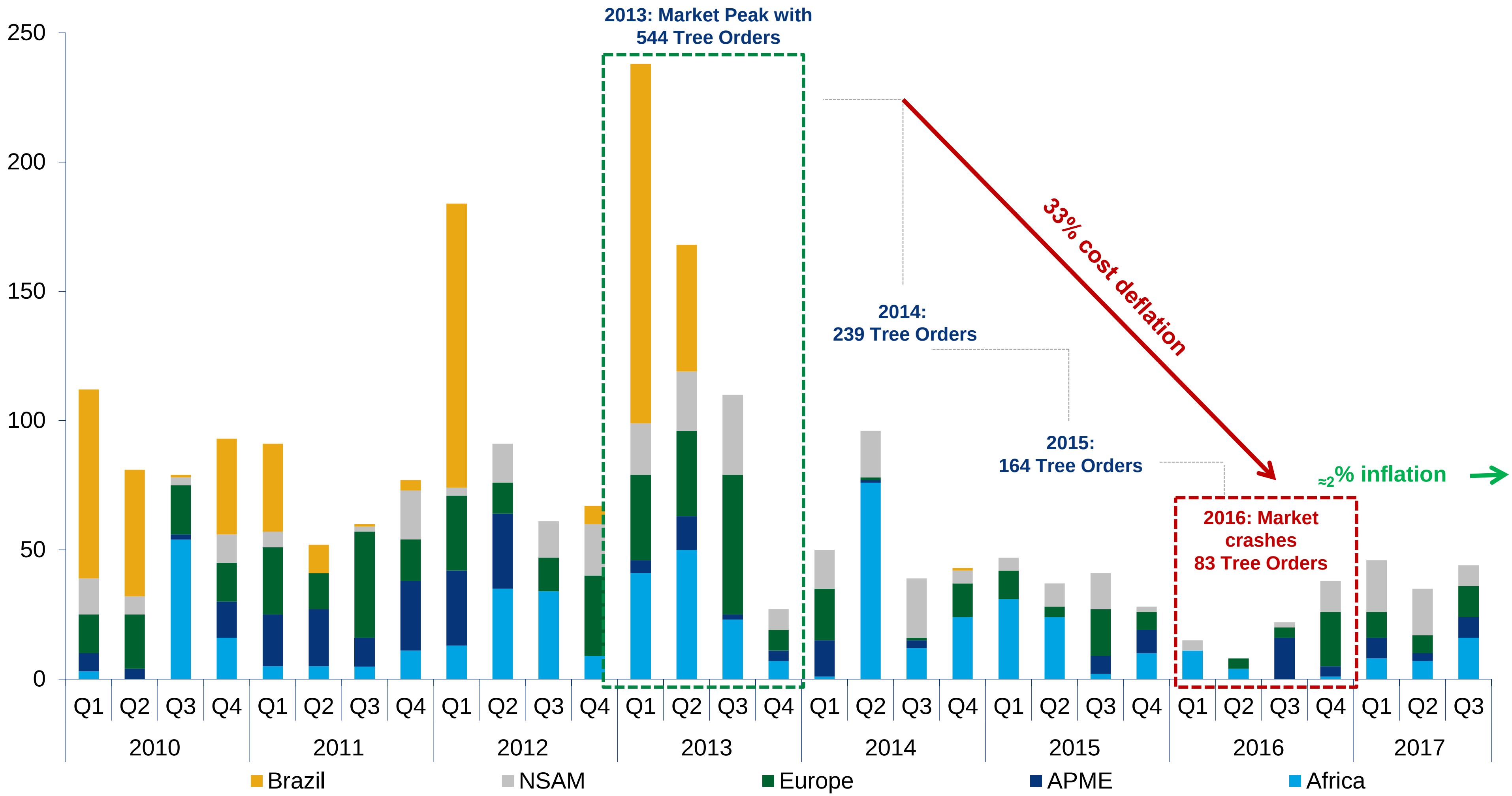
Historical Market Performance

Signs of recovery – Tree orders for 2017YE almost double of the 2016YE figure

Historical Subsea Tree Orderbook 2010-2017Q3

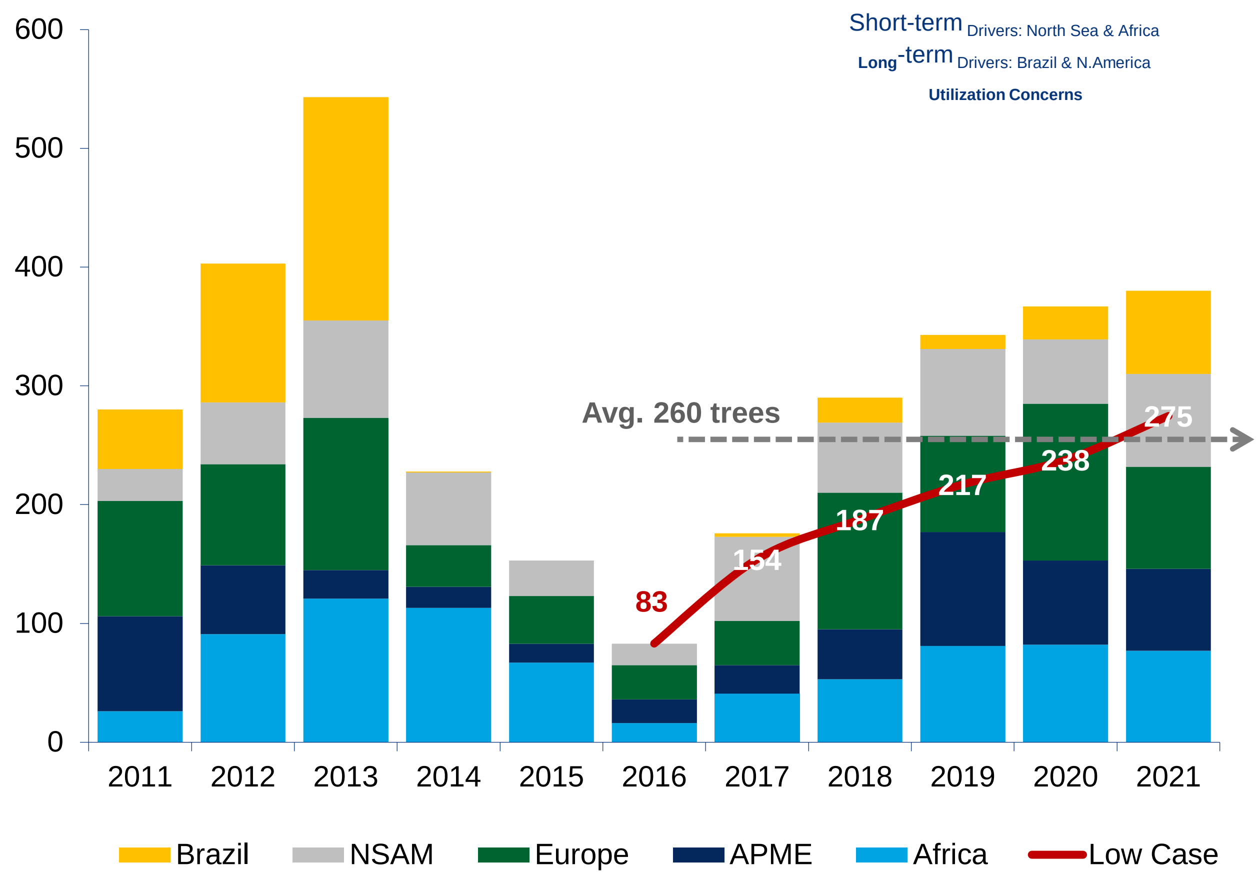


Source: Wood Mackenzie Subsea Service

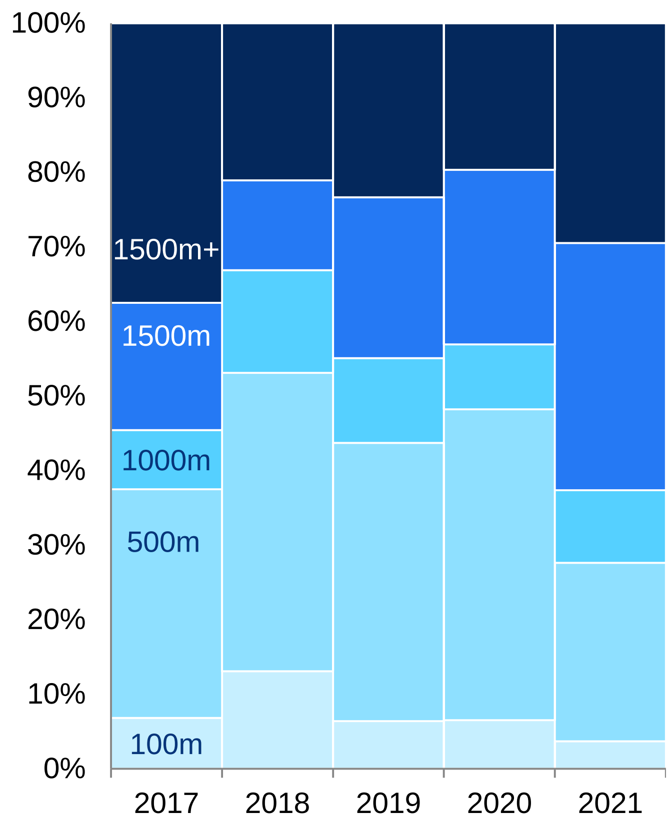
Subsea Tree Awards to 2021

The new normal for the subsea OEMs will be in the 250-270 trees/annum range.

Subsea Tree Awards Forecast to 2021



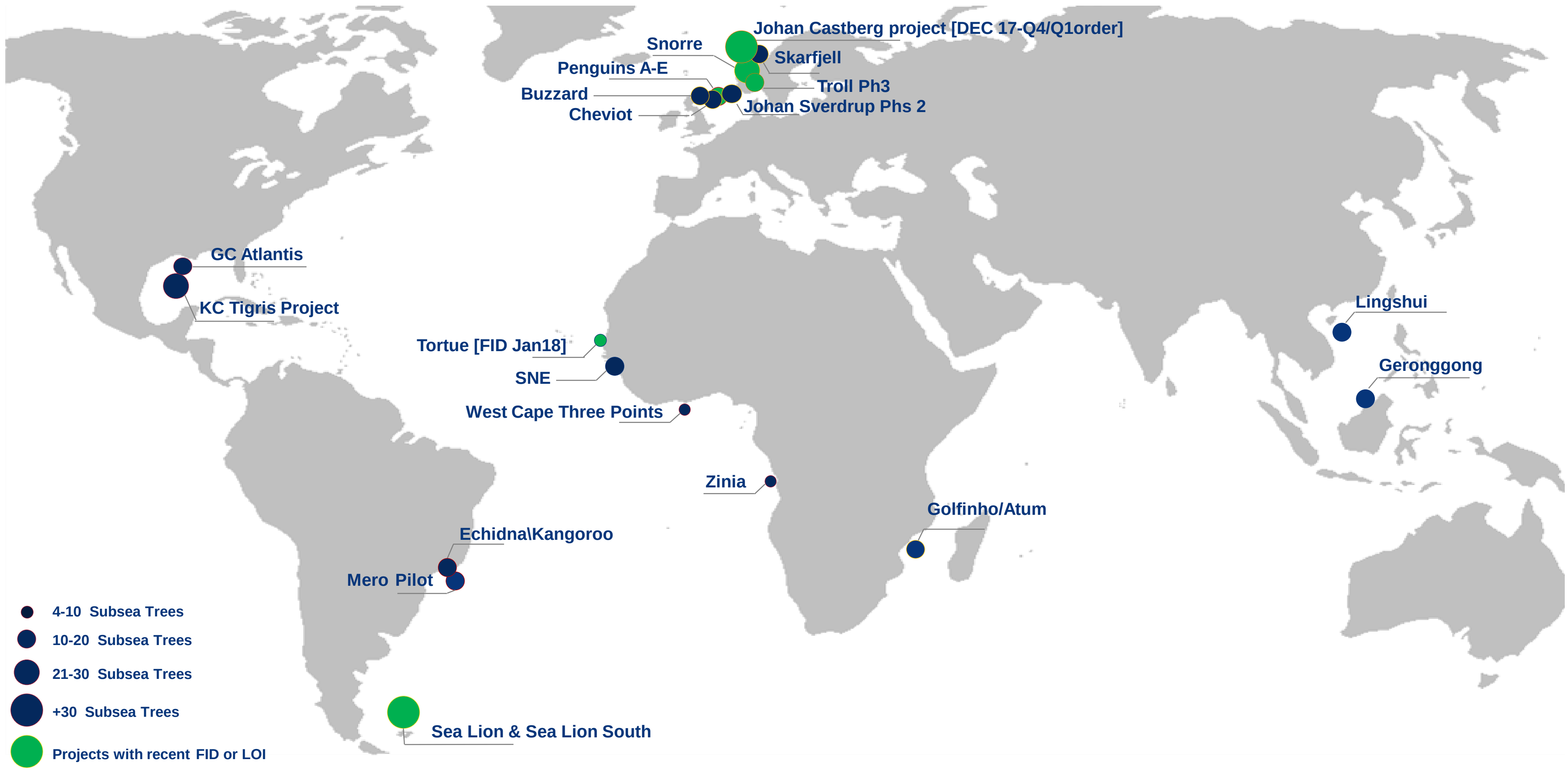
Water Depth %



Source: Wood Mackenzie Subsea Service

Upcoming FIDs in the next 18 months (Key Subsea Projects)

2018 is expected to see a significant uptake in FID activity, with several large delayed projects lined up for the green light

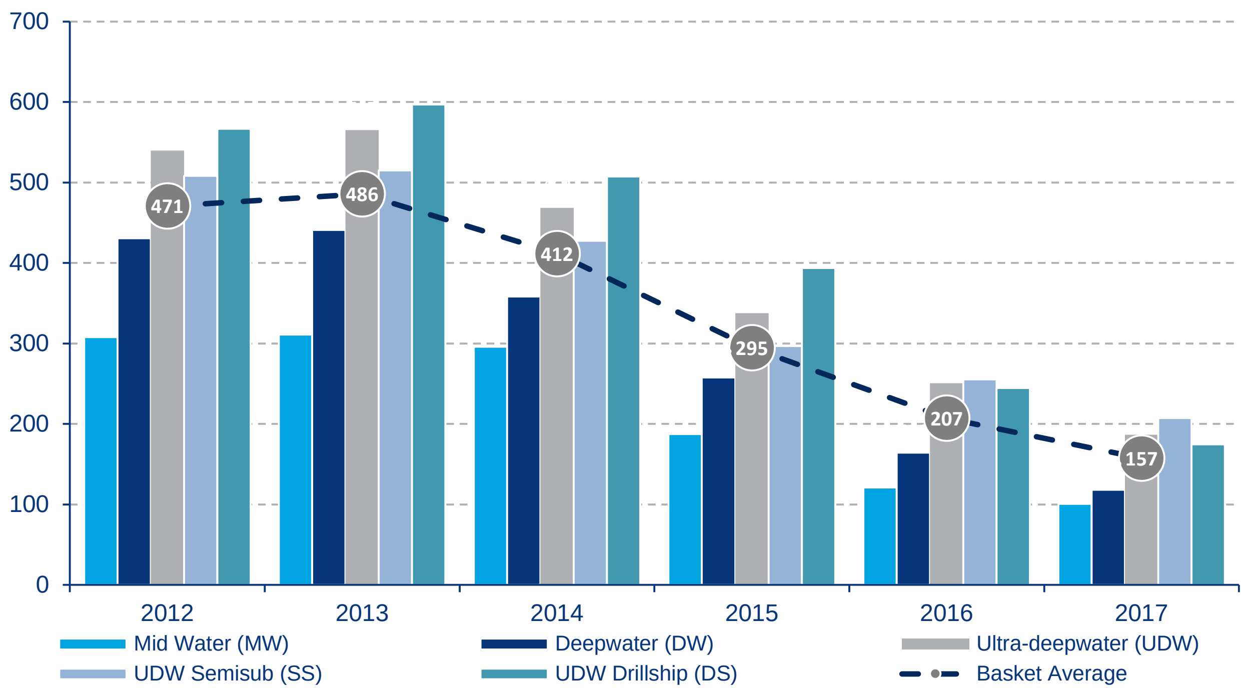


Source: Wood Mackenzie Global Project Tracker

DW rig day rates have remained rock-bottom through the fourth quarter of 2017

Rig managers remain reluctant to disclose fixture rates. However, those that have been announced suggest the bottom has been reached. We expect limited change in 2018

Leading-edge[1] floater day rates: US$k/day



Category	2012	2013	2014	2015	2016	2017
Mid Water (MW)	*308*	*311*	*296*	*187*	*121*	*101*
Deepwater (DW)	*431*	*441*	*358*	*258*	*164*	*118*
Ultra-deepwater (UDW)	*540*	*565*	*469*	*338*	*251*	*187*
UDW Semisub (SS)	*508*	*515*	*428*	*297*	*255*	*207*
UDW Drillship (DS)	*567*	*597*	*508*	*394*	*245*	*175*
Basket Average	**471**	**486**	**412**	**295**	**207**	**157**

Observations

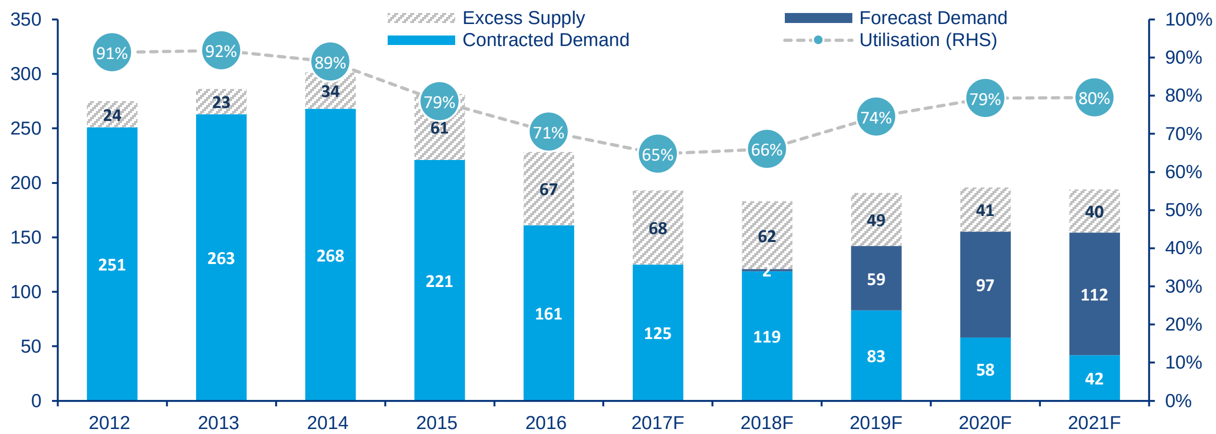
- **Many drillers have eliminated their monthly fleet status reports and opted for non-disclosure**
  - The drillers have been less inclined to publish many of their day rates as we believe a significant number are signed at or below cost
  - Tremendous pressure to keep rigs active and in service has encouraged drillers to bid unsustainably low rates on short-term contracts
- **Leading-edge rates are down c.65% since their peak in 2014**
  - All rig types have seen similar declines, though there has been particular softness in the UDW Drillship sector through 2017
  - Continued over-supply will keep a cap on rates for the next 18 months. Pricing power is unlikely to return until the backend of 2019
- **Rate recovery will be driven by tightening utilisation and the high costs of reactivation**
  - As utilisation begins to increase, the incremental costs associated with reactivating long-term cold-stacked assets will help pricing recover for the fleet of actively marketed rigs
- We believe the floater market is now bottoming but current trough rates will persist until 2019 at the earliest

1. *Leading-edge rates: day rates presented by the year (or date/period) they were signed. Rates are sometime presented as 'earned rates' . Earned rates are the average of all currently active contracts, and are therefore less sensitive to prevailing dynamics. Earned rates lag behind leading edge rates*

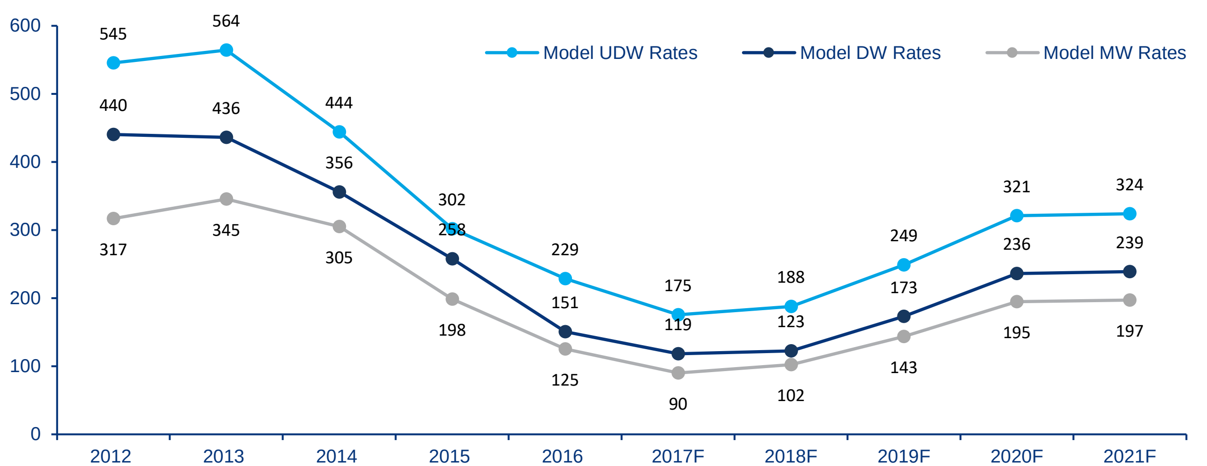
Base case rig supply/demand outlook for floating rigs: day rate recovery expected during H2-2019

Current trough rates will persist to H2-2019. Utilisation gains will begin to generate pricing power for active assets. High reactivation costs for cold stacked rigs will drive day rates higher

Base case rig demand & utilisation: # contracted rigs



Base case rig day rates by rig class: US$k/day



Observations

- **Narrowing gap between supply and demand will generate pricing power during H2-2019**
  - Current trough rates, with many contracts signed at or below breakeven, will persist until H2-2019
  - A flat demand outlook, driven by an equal quantity of attrition and additions, will lead to utilisation gains as demand recovers from 2019
  - Our base case view sees day rates rebounding above 2016 levels by H2-2019
  - Looking further ahead, day rates will rebound to 2015 levels by 2020, with further growth expected during 2021
- **The high reactivation costs associated with long-term stacked floaters will further drive rate recovery**
  - As utilisation rebounds, rig managers will turn to stacked assets to service demand. Reactivation and SPS costs for long term stacked rigs will help pricing recover for contract-ready assets
- **Key risks to this forecast:**
  - Oil prices fail to stabilise, meaning fewer FIDs
  - Lower level of attrition and greater reactivation activity boosts supply and reduces utilisation
  - Drilling efficiency improves more quickly than expected

Agenda

EPIC/Subsea Supply Chain Evolution

Recent supply chain evolution can be categorised into cyclical and systematic reactions to the current oil price squeeze and the lack of development opportunities

Cyclical Evolution	Systematic Evolution		
Bankruptcy, Ch11 & Company Failings	**M&A - Consolidation**	**New Business Models**	**Keywords**
EMAS, Hallin (Hallin Marine Subsea International PLC), CEONA, Swiber, Cal Dive International, Tidewater, DeepFlex, Harkand, Oceanteam	TechnipFMC, FORSYS SUBSEA, GENESIS	iEPIC Model	simplification execution efficiency turn-key solution
Tier 2 & 3 OSV players impacted first	Schlumberger, OneSubsea (A Schlumberger Company) +	subsea 7, KBR	reservoir understanding execution efficiency LoF services turn-key solution
	GE Oil & Gas, Baker Hughes +	McDermott, financing support	reservoir understanding LoF services aggressive pricing
	McDermott +	CB&I	MDR – greater engineering onshore exposure turn-key solution
	AkerSolutions +	SAIPEM	Next consolidation prospect
	Wood Group, amec foster wheeler		Mgmt & LoF one-stop-shop
Potential for further consolidation	AkerSolutions, HALLIBURTON, Weatherford		**Distressed Tier 2 & 3 EPC players**

Source: Wood Mackenzie Subsea Service

Agenda

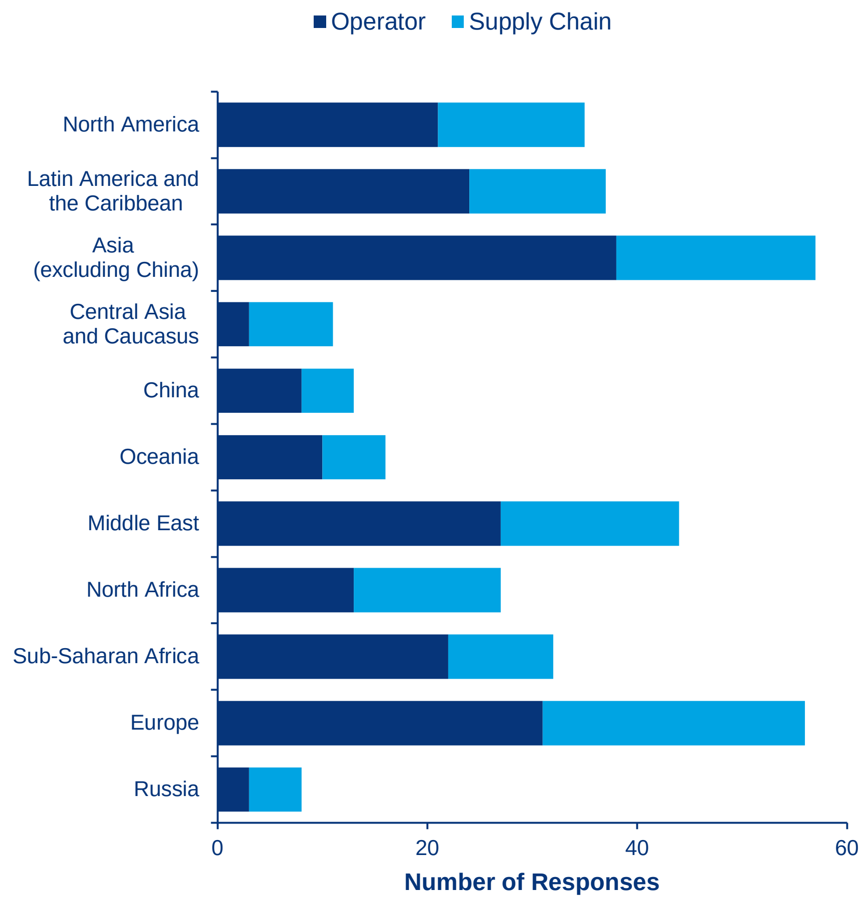
Executive Summary

- **Context.** Wood Mackenzie's 2017 Global Upstream Cost Survey captured industry views from over 170 respondents, representing all key regions, company groups and resource themes
- **Cost changes over last 12 months.** Across the 8 major spend categories the industry observed cost reductions of 6-11%, compared to 13-23% observed in last years survey
- **Expectations next year.** The industry expects continued cost reductions of ~3% over the next year (2017-18), a lower rate than observed over the last two years
- **Implementation approaches.** The industry is starting to focus on more strategic (long-term) cost reduction approaches for third party spend and internal operating costs.
- **Cost sustainability.** Sustaining cost reductions across the cycle remains a major challenge for the industry. This year there is close to an even split in views of cost reductions being sustainable vs temporary, an improvement over 2016
- **Demand expectations.** Expectations on industry demand uplift have been pushed back from last year's survey, with ~20% of respondents not expecting demand to increase until 2020 at the earliest

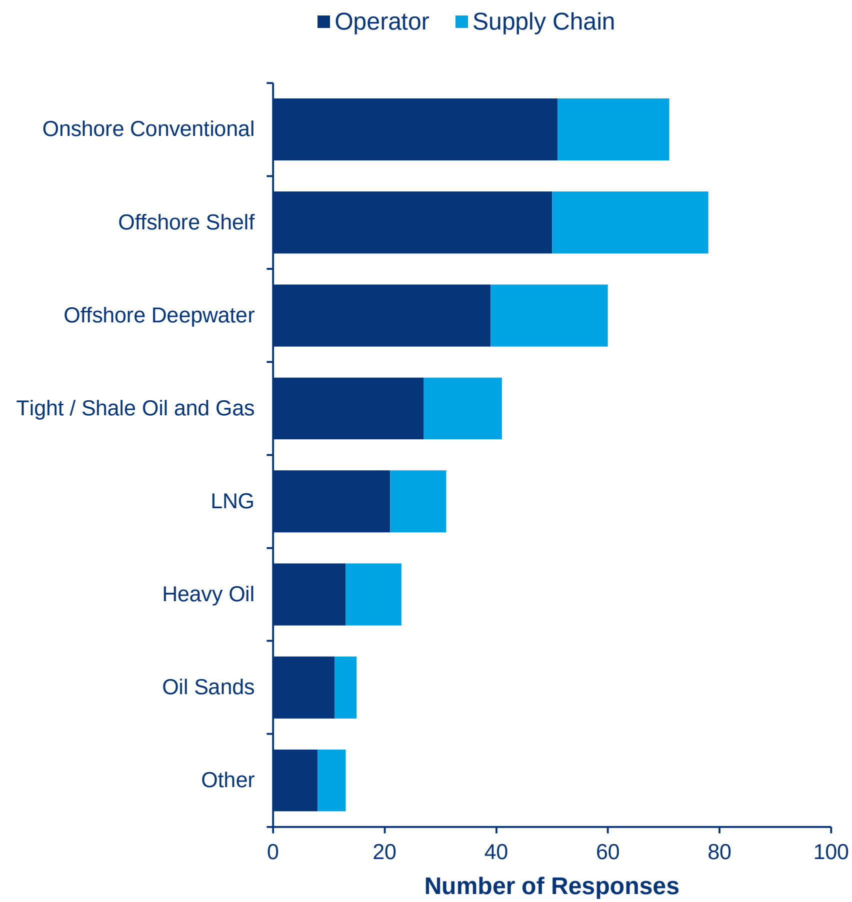
Survey responses – regions and resource themes

Our global survey captured responses from across the globe and across multiple resource themes

Number of survey respondents by region*



Number of survey respondents by resource theme*

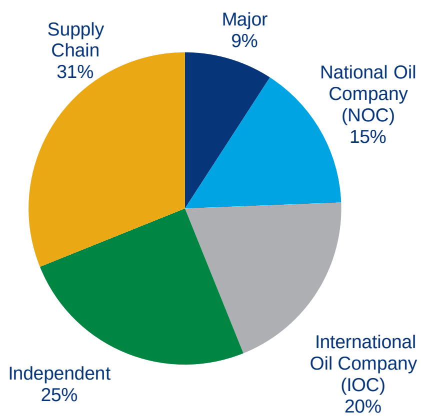


* Job roles of survey respondents may cover multiple regions and resource themes

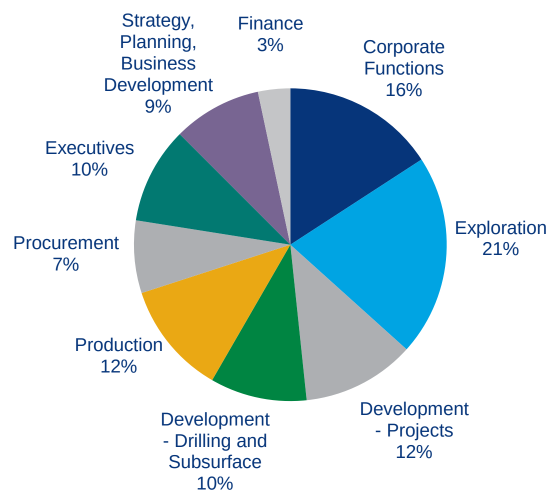
Survey responses – company groups and functions

We surveyed different company groups and multiple functional areas across operators and suppliers

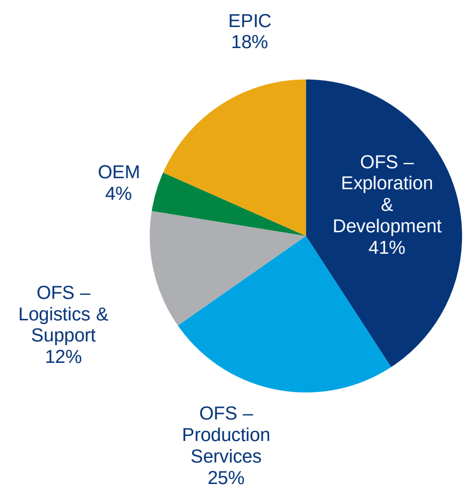
Survey respondents by company group



Operator respondents by function



Supply Chain respondents by function



OFS – Oilfield services
OEM – Original equipment manufacturer
EPIC – Engineering, Procurement, Installation, Construction

Summary of cost changes – based against 2015 levels

Material cost reduction delivered since the oil price decline of 2014, with expectation of further incremental reductions in 2018

Industry observed (2015-2017) and expected (next 12 months) cost deflation relative to 2015 levels (rebased to 100)

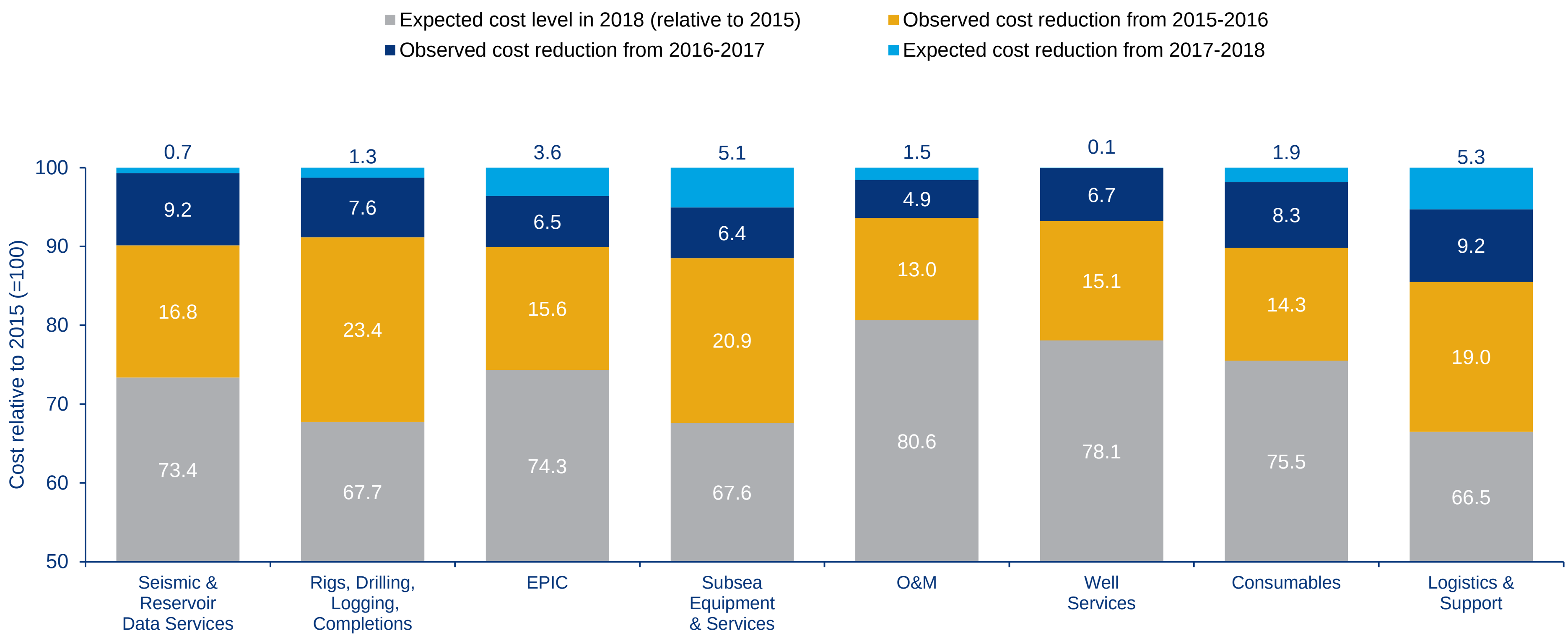
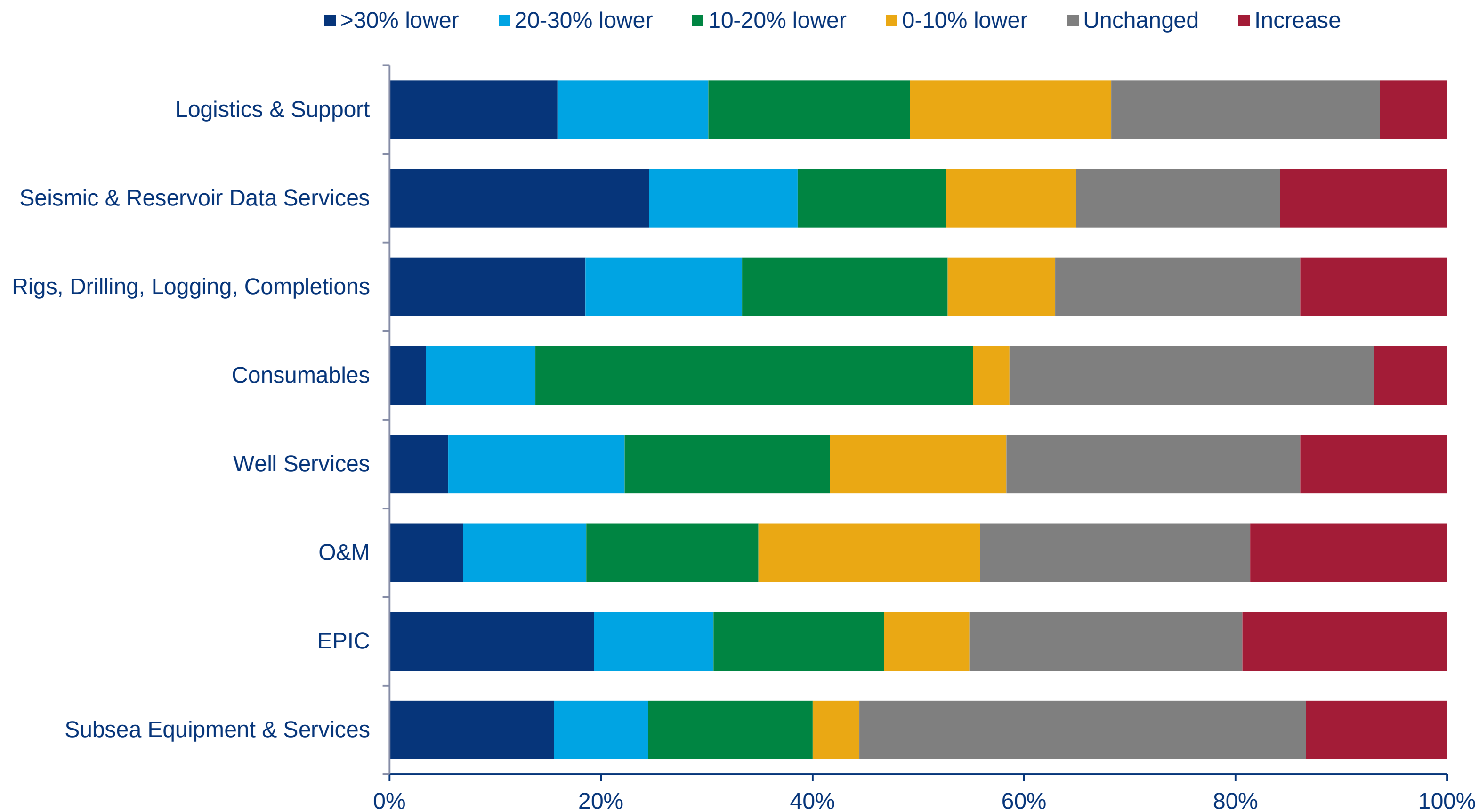


Chart shows compounded observed cost reduction by year relative to 2015 – previous chart show year-on-year observed cost reduction between 2016 and 2017

Cost changes observed over last 12 months (2016-17)

Logistics, Seismic and Rigs had the highest percentage of respondents observing cost reductions over the last 12 months

Industry observed cost changes in the last 12 months (2016-17)

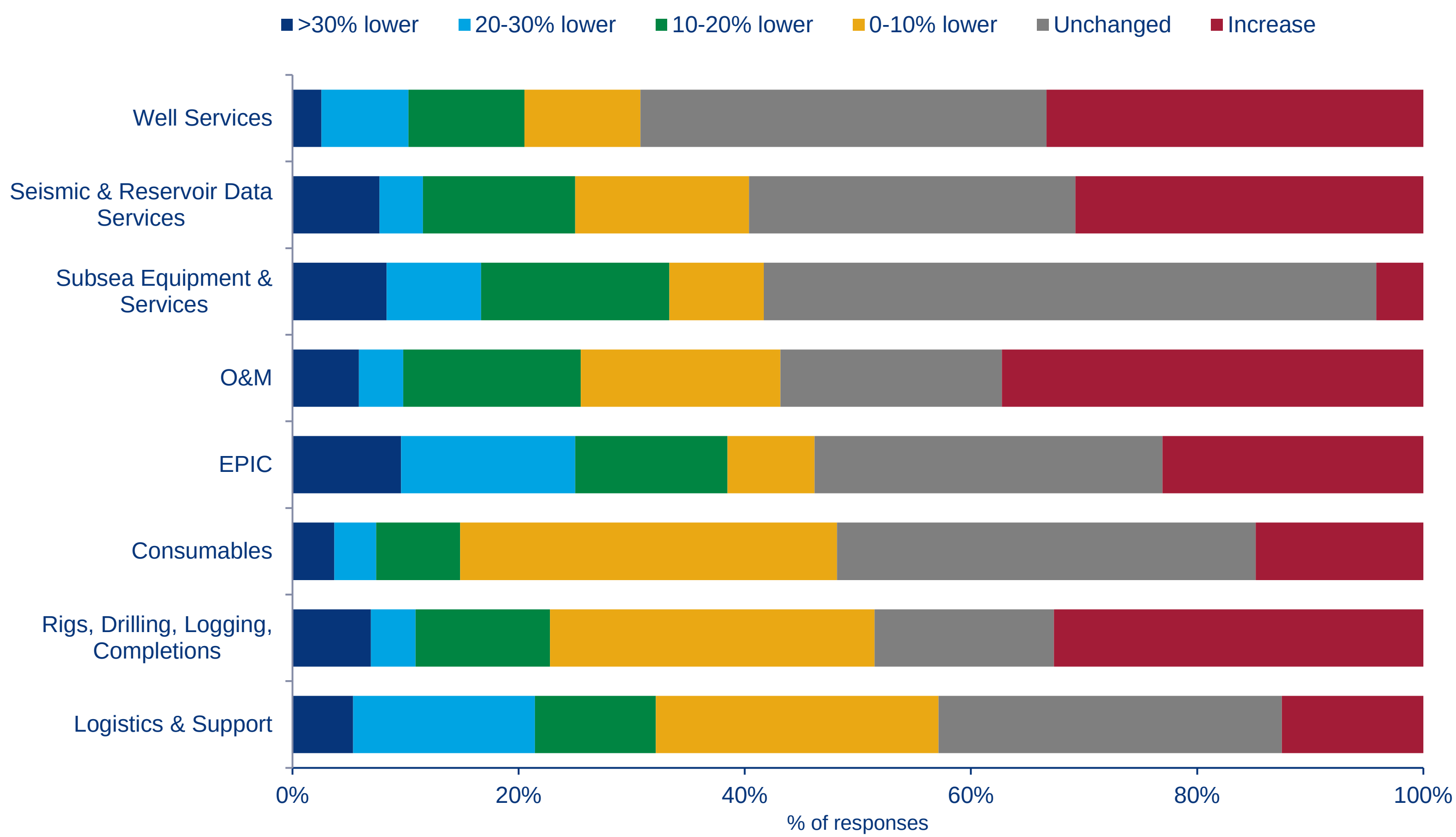


Survey question: What % change in annual spend / sales did your organisation achieve over the past 12 months?

Cost changes expected over next 12 months (2017-18)

Wells, Seismic and Subsea had the highest percentage of respondents expecting a combination of unchanged and cost increases over the next 12 months

Industry expectation on cost changes in next 12 months (2017-18)

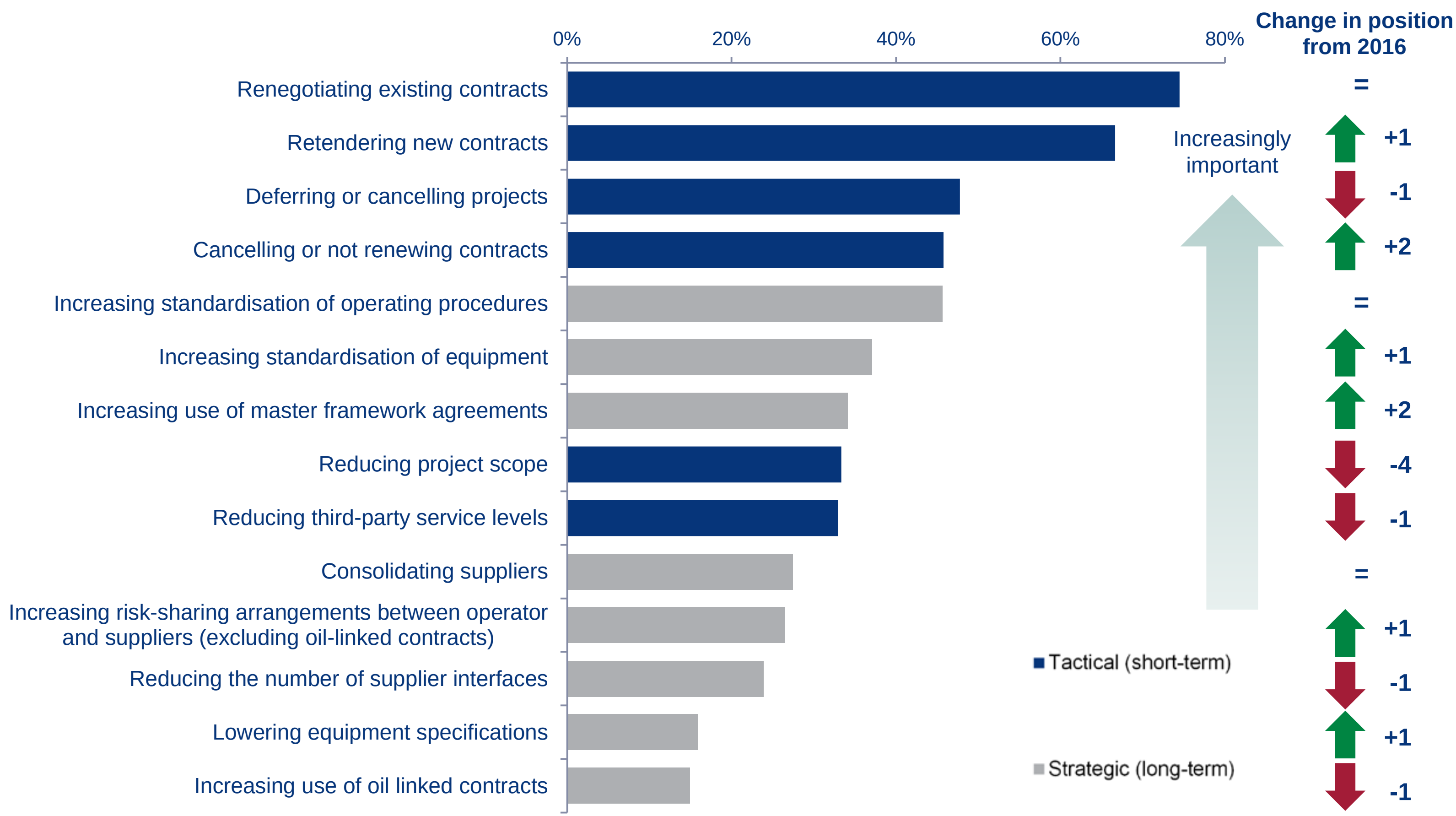


Survey question: What % change in annual spend / sales do you expect your organisation to achieve over the next 12 months?

Industry observed approaches to reducing supply chain costs

The last 12 months have continued to see a focus on short-term rather than strategic approaches

Industry observations on 'very important' approaches to reduce supply chain costs last year (2016-17)

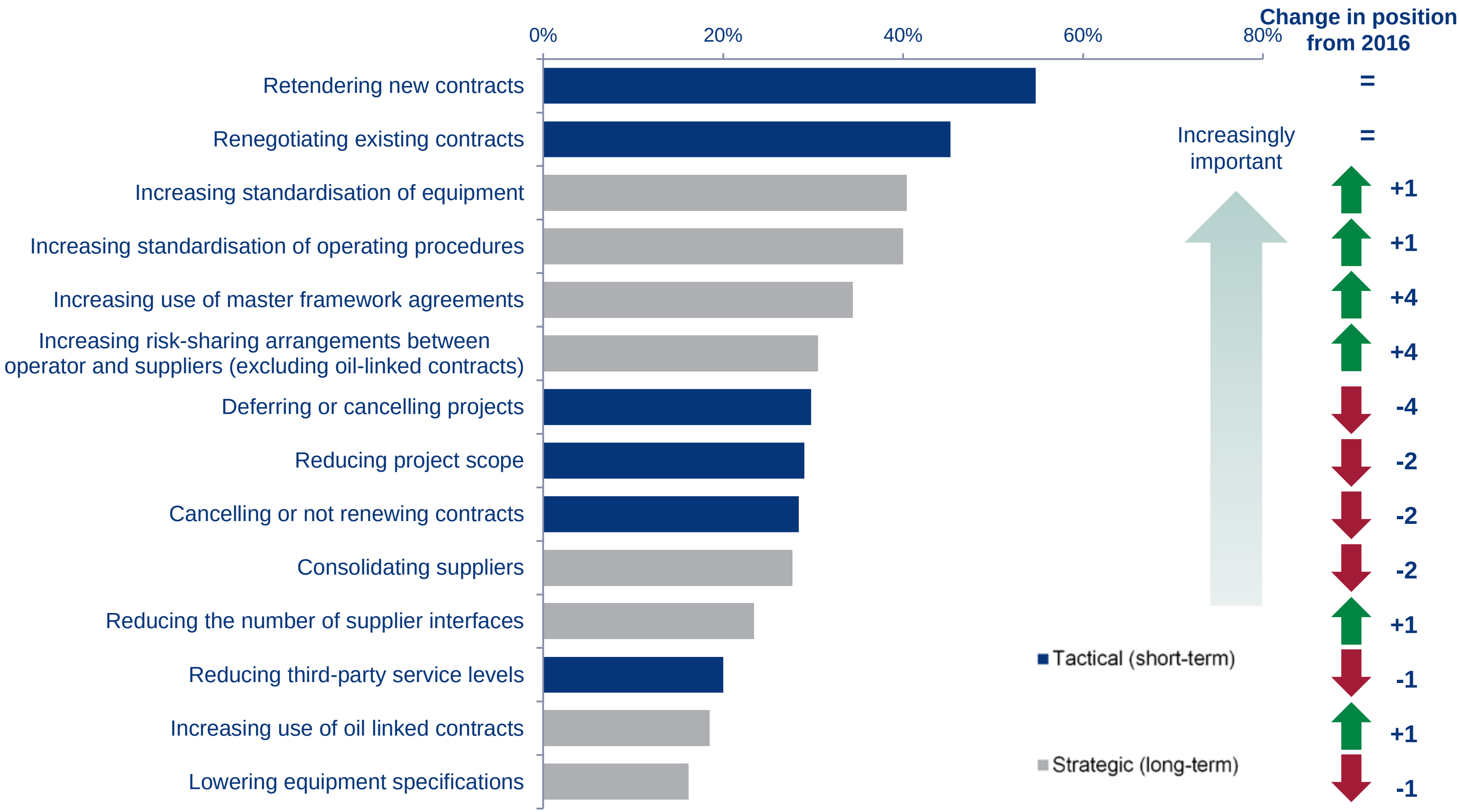


Survey question: How would you rate the level of importance that your organisation gave to each of the following approaches to reduce supply chain costs over the past 12 months?

Industry expected approaches to reducing supply chain costs

Strategic approaches to reducing costs are being considered more than in 2016

Industry expectations on 'very important' approaches to reduce supply chain costs next year (2017-18)



Survey question: What level of importance do you expect your organisation to give each of the following approaches to reduce supply chain costs over the next 12 months?

Q&A

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Europe	+44 131 243 4400
Americas	+1 713 470 1600
Asia Pacific	+65 6518 0800
Email	contactus@woodmac.com
Website	www.woodmac.com