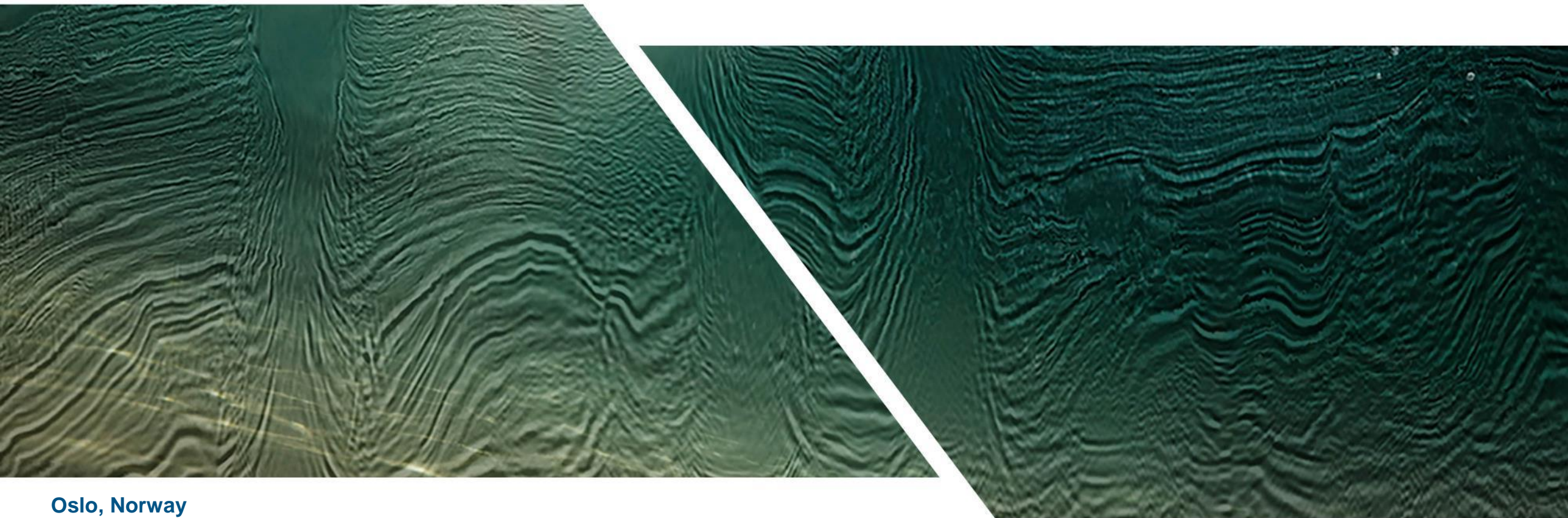# Capital Markets Day 2019

TGS

Oslo, Norway

7 February 2019

Forward-Looking Statements

All statements in this presentation other than statements of historical fact, are forward-looking statements, which are subject to a number of risks, uncertainties, and assumptions that are difficult to predict and are based upon assumptions as to future events that may not prove accurate. These factors include TGS' reliance on a cyclical industry and principal customers, TGS' ability to continue to expand markets for licensing of data, and TGS' ability to acquire and process data products at costs commensurate with profitability. Actual results may differ materially from those expected or projected in the forward-looking statements. TGS undertakes no responsibility or obligation to update or alter forward-looking statements for any reason.

2018 – Another Year of Outperformance

Net revenues
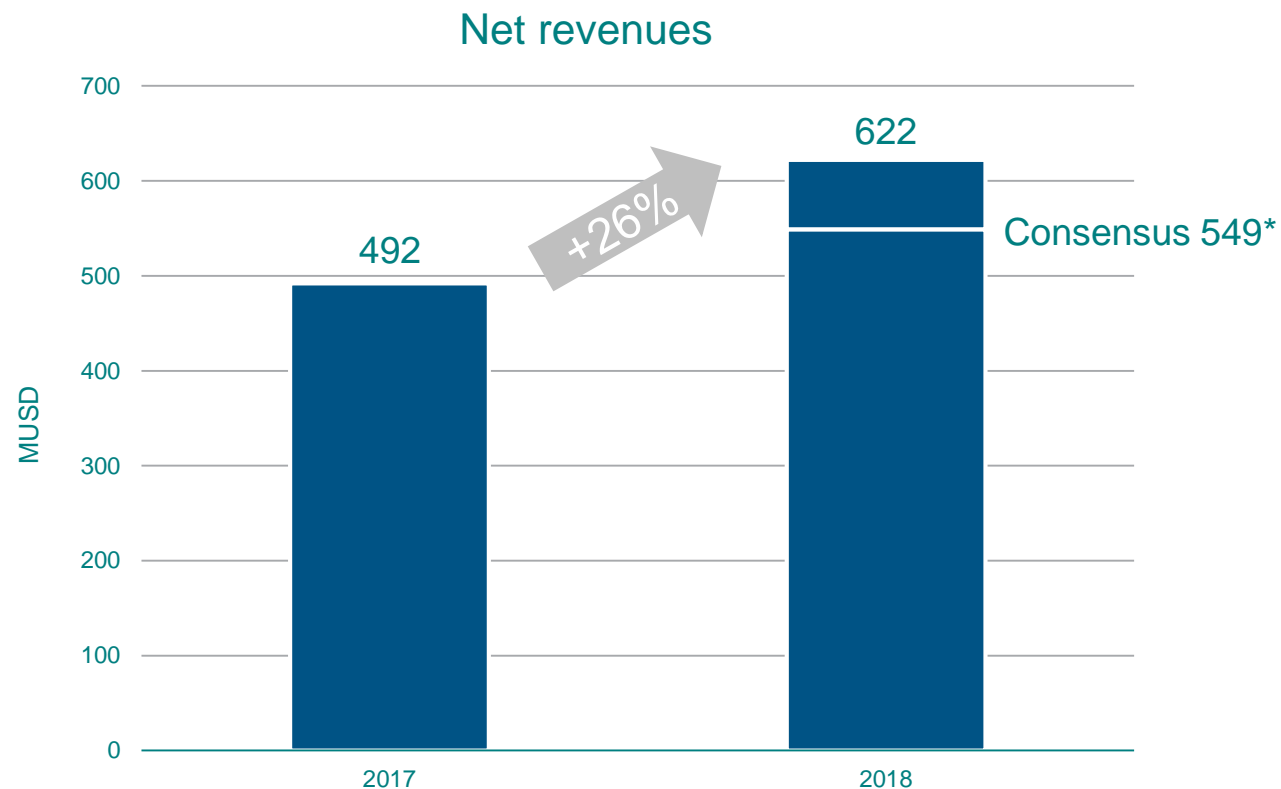
- Strong revenue growth of 26%

- Outperformed consensus once again*

- ROCE at 18% approaching historical levels

- Solid cash generation enables continued dividend growth

Analyst consensus estimate at 11 January 2018 according to Factset

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Agenda

Time CET	Presentation
0900-0945	Presentation of Q4 2018, market outlook and 2019 guidance
0945-1000	Questions & Answers
1000-1015	Break
1015-1030	Financial strategy
1030-1145	Strategic priorities
1145-1200	Questions & Answers
1200-1230	Light lunch

Presentation team

Kristian Johansen
CEO

Sven Børre Larsen
CFO

Erik Finnstrom
SVP New Ventures

Katja Akentieva
SVP Onshore
Seismic & Well Data

Arvind Sharma
VP Data & Analytics

Zhiming Li
SVP Imaging

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Q4 2018 presentation

2018 Highlights

- Q4 2018 - another solid quarter

  - Q4 net revenues of 188 MUSD, compared to 157 MUSD in Q4 2017 – 20% growth

  - Operating profit for the quarter was 68 MUSD, up 32% from 52 MUSD in Q4 2017

  - Earnings per share (dil.) of 0.59 USD, up 11% from 0.53 USD in Q4 2017

- 2018 - strong growth and outstanding cash generation

  - 2018 net revenues of 622 MUSD, compared to 492 MUSD in 2017 – 26% growth

  - Operating profit of USD 172 MUSD, up 76% from 97 MUSD in 2017

  - Free cash flow was 117 MUSD for the full-year 2018

- Quarterly dividend payment of increased to USD 0.27 per share in Q1 2019, up 35% sequentially
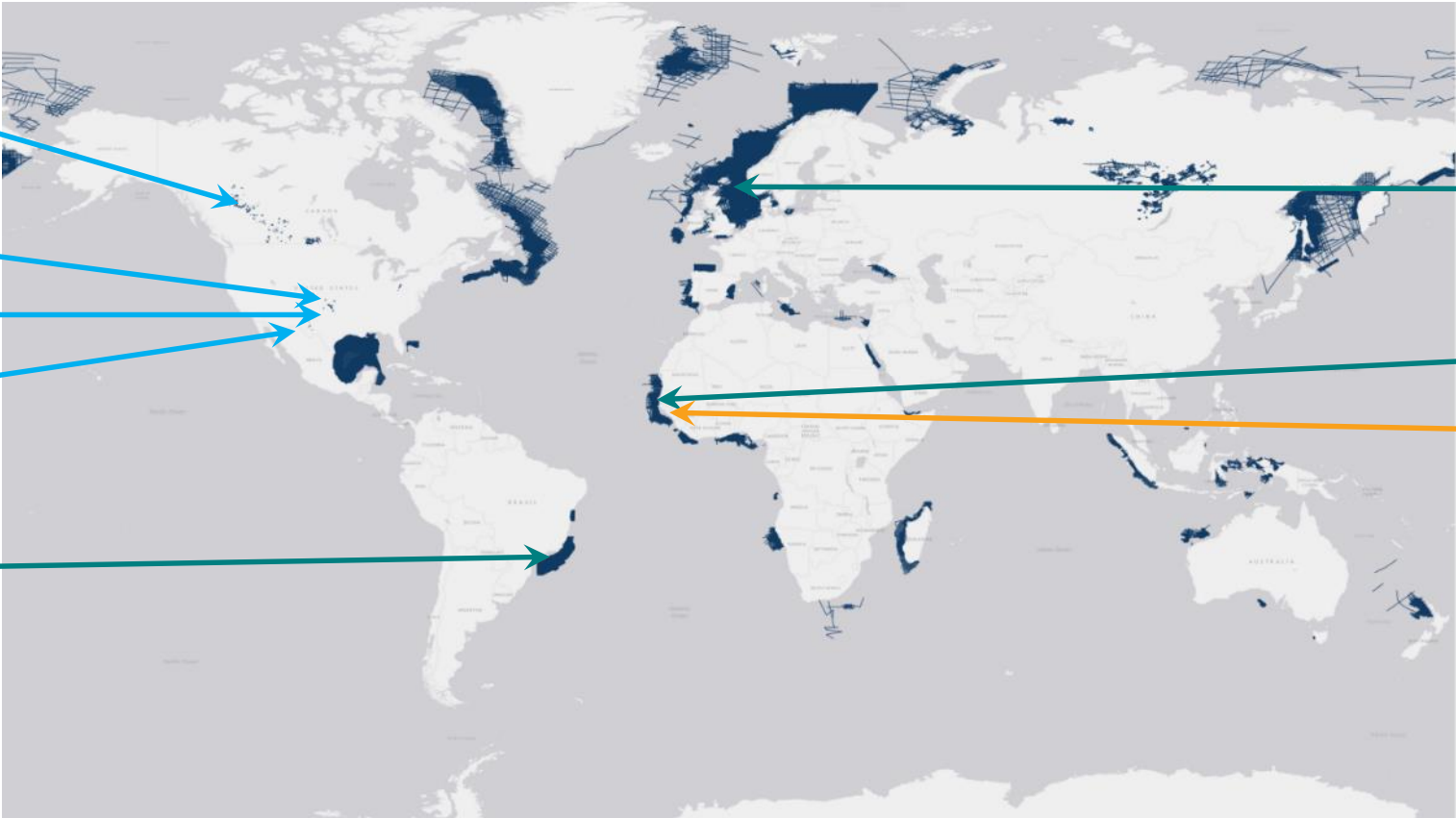
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Operational Highlights

Q4 2018 Operations

Western Hemisphere

Eastern Hemisphere

Montney Crew

SCOOP/STACK Crew I

SCOOP/STACK Crew II

Permian Crew

HYSY 720 JV

Axxis Crew

BGP Prospector

M/V Gyre

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Q4 Activity – Norway / UK

Q4 Activity

- **Utsira:** 1,560 km^2 multi-client ocean bottom node (OBN) project in core part of the central North Sea
    - Strategic collaboration with Axxis Geo Solutions

Norway / UK Market

- Annual APA rounds in Norway / numbered rounds in UK

- Acreage turnover and farm-ins

- Small and mid-sized companies becoming increasingly important – 33 companies offered ownership interest in a total of 83 production licenses on the Norwegian Shelf in the APA 2018
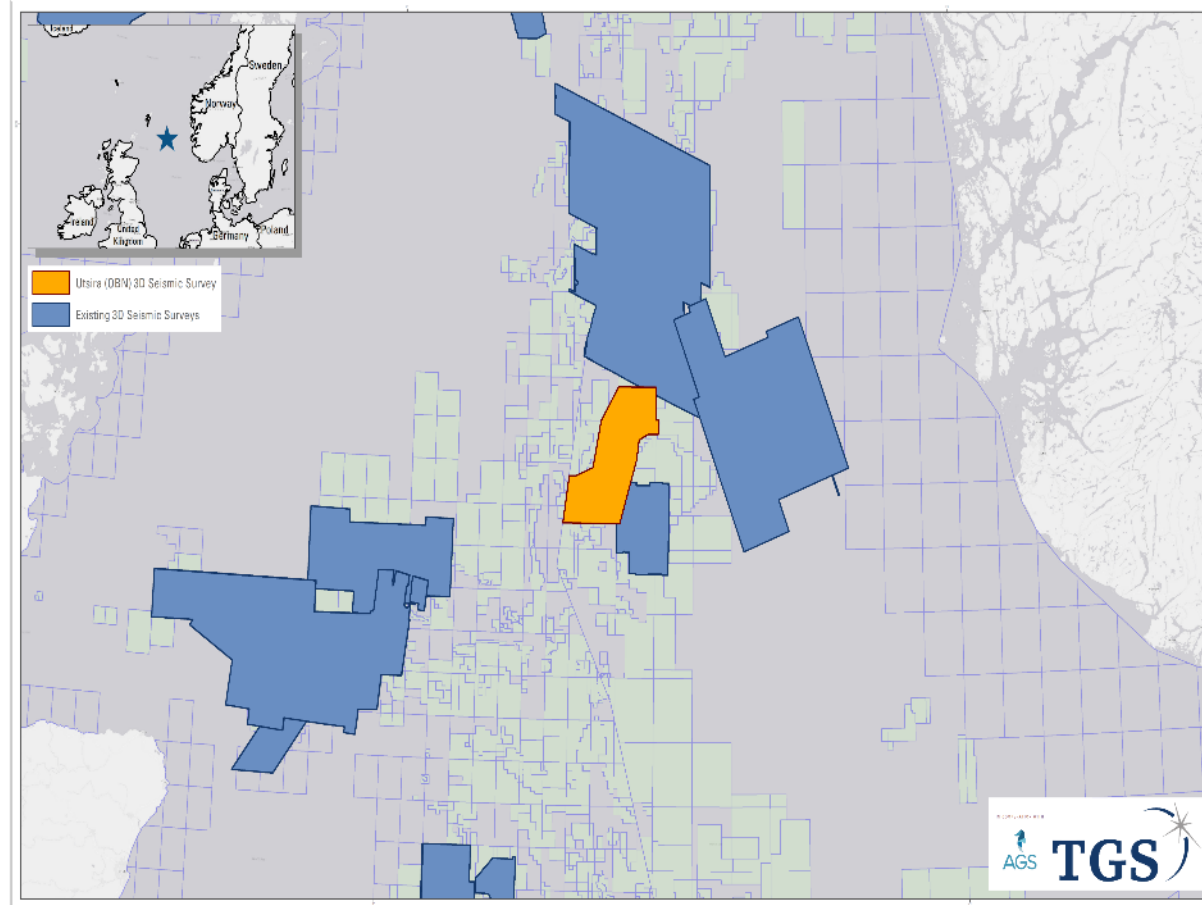
Q4 Activity – North West Africa

Q4 Activity

- **MSGBC SeaSeep:** 113,500 km^2 multi-client regional SeaSeep project in the North West Africa Atlantic Margin

- **Jaan 3D:** 28,300 km^2 multi-client 3D project in the southern portion of the MSGBC Basin in partnership with PGS and GeoPartners

  - 11,100 km^2 new acquisition, complemented by reprocessing and full pre-stack merging of existing multi-client 3D

NW Africa Market

- Increased E&P company interest driven by exploration success

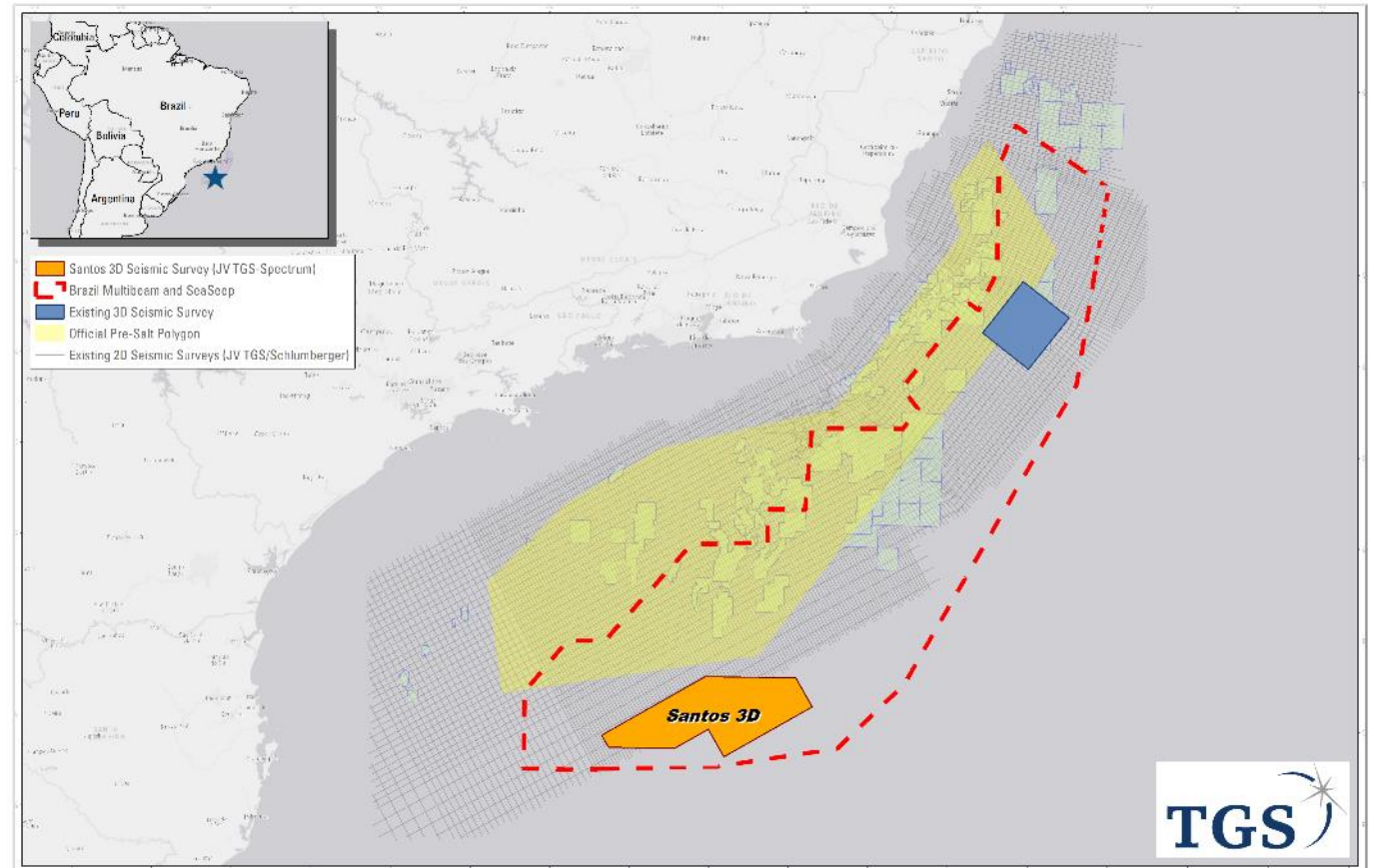- Still some uncertainty on timing of license rounds
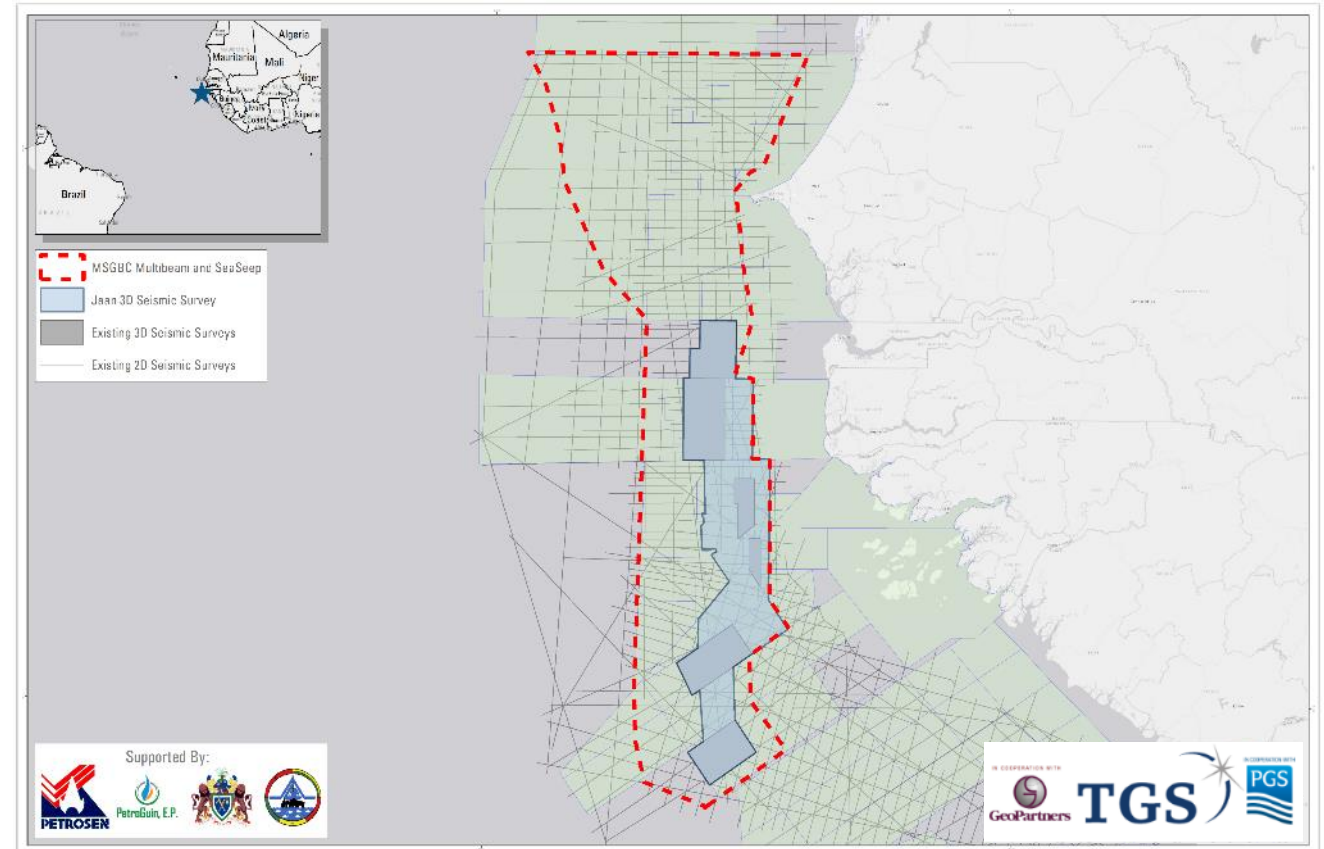
Q4 Activity – Brazil

Q4 Activity

- **Brazil Southern Basins SeaSeep:** 200,000 km^2 multibeam and coring project in Campos and Santos basins

- **Santos Basin 3D:** 15,000 km^2 multi-client 3D in the southern Santos Basin, in collaboration with Spectrum

Brazil Market

- License round transparency - calendar out to 2021

- Seismic permitting process becoming more streamlined

  - But environmental permit challenges remain

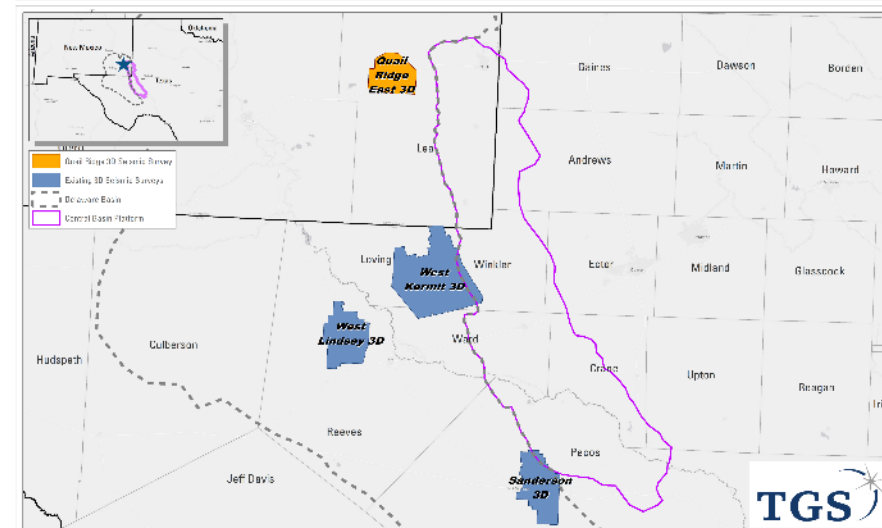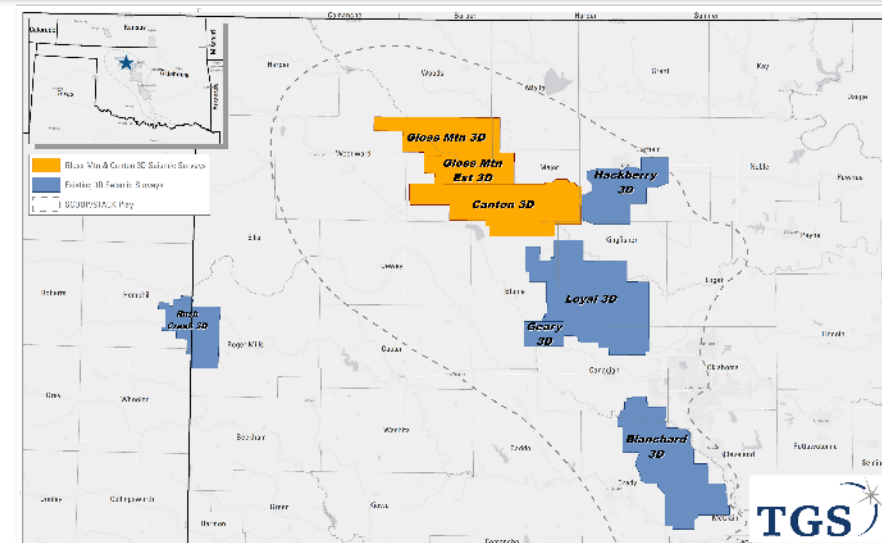- Supermajor focus area leading to competitive bidding

Legend:
- Santos 3D Seismic Survey (JV TGS-Spectrum)
- Brazil Multibeam and SeaSeep
- Existing 3D Seismic Survey
- Official Pre-Salt Polygon
- Existing 2D Seismic Surveys (JV TGS/Schlumberger)

Santos 3D

Q4 Activity – North America Land

Q4 Activity

- **Gloss Mountain (SCOOP/STACK):** 1,500 km^2 high-resolution 3D multi-client project in the Anadarko Basin

- **Canton 3D (SCOOP/STACK):** 1,400 km^2 high-resolution 3D multi-client project in the Anadarko Basin

- **Quail Ridge East 3D (Permian):** 330 km^2 high-resolution 3D multi-client project in the Delaware Basin, in collaboration with Fairfield Geotechnologies

- **Dawson 3D Phase II (Montney):** 450 km^2 3D multi-client project in the Montney shale formation

Onshore Market

- Geological complexity in some plays - maximizing productivity from horizontals to minimize break even cost
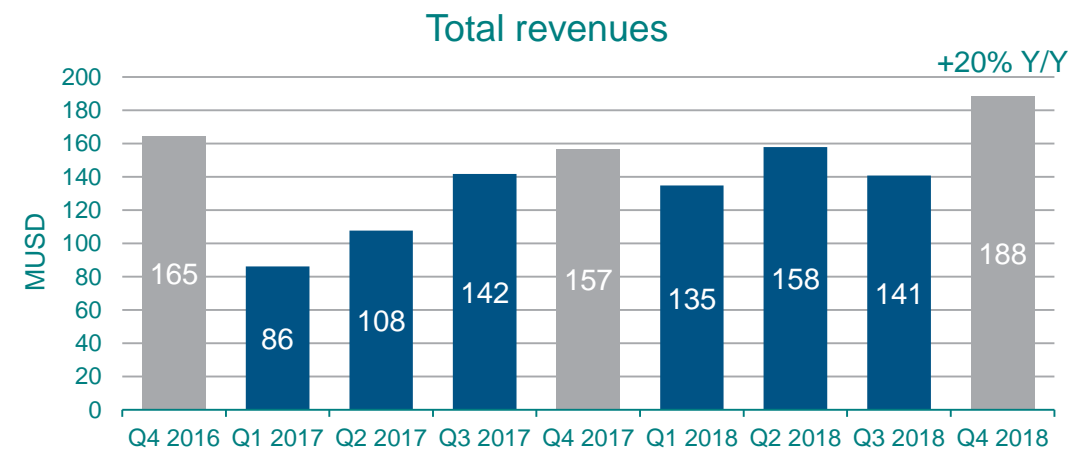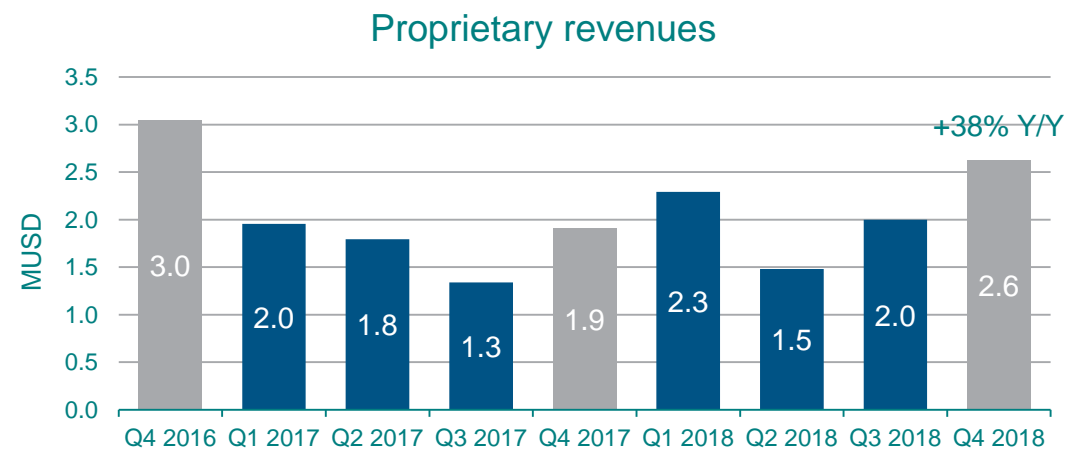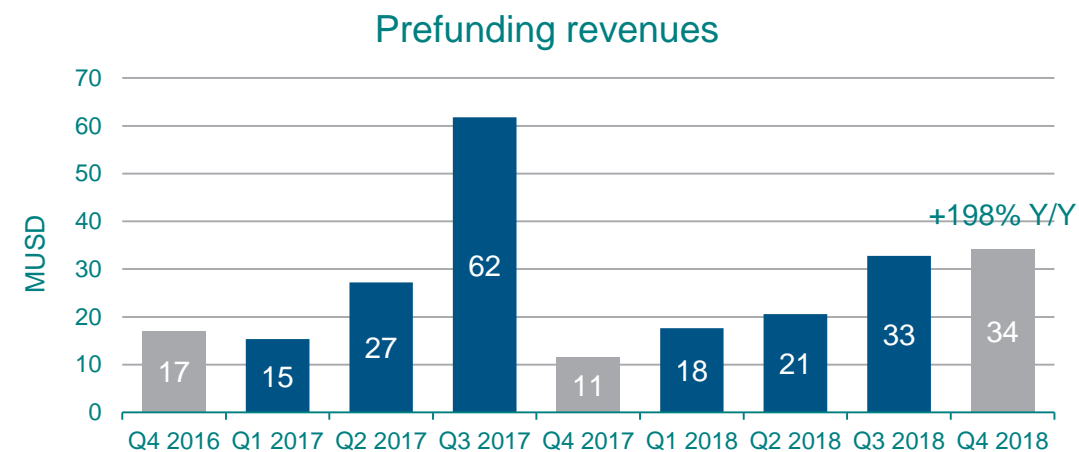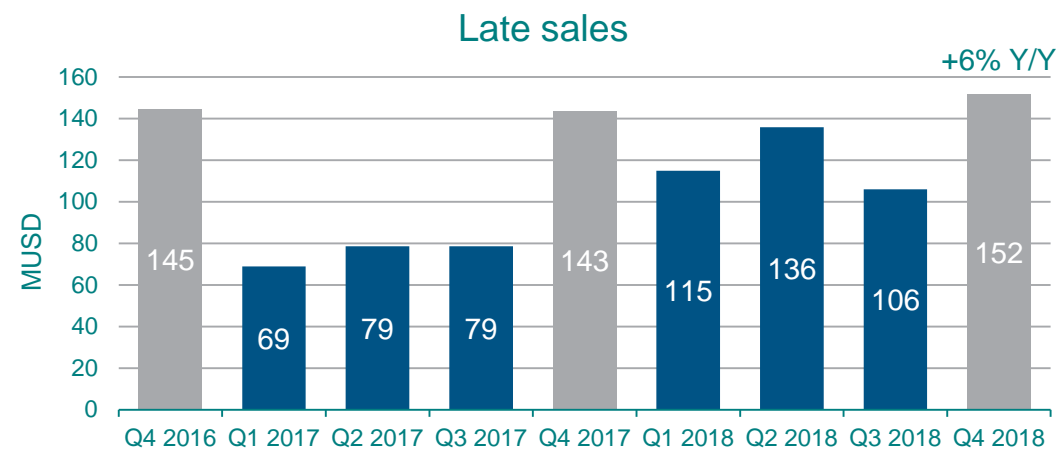
- Acreage turnover and farm-ins

Financials

Net Revenues
Segment Reporting

Late sales

+6% Y/Y

Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018
145	69	79	79	143	115	136	106	152

Prefunding revenues

+198% Y/Y

Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018
17	15	27	62	11	18	21	33	34

Proprietary revenues

+38% Y/Y

Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018
3.0	2.0	1.8	1.3	1.9	2.3	1.5	2.0	2.6

Total revenues

+20% Y/Y

Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018
165	86	108	142	157	135	158	141	188

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Net Revenues Breakdown
Segment Reporting

By Business Unit

By Technology
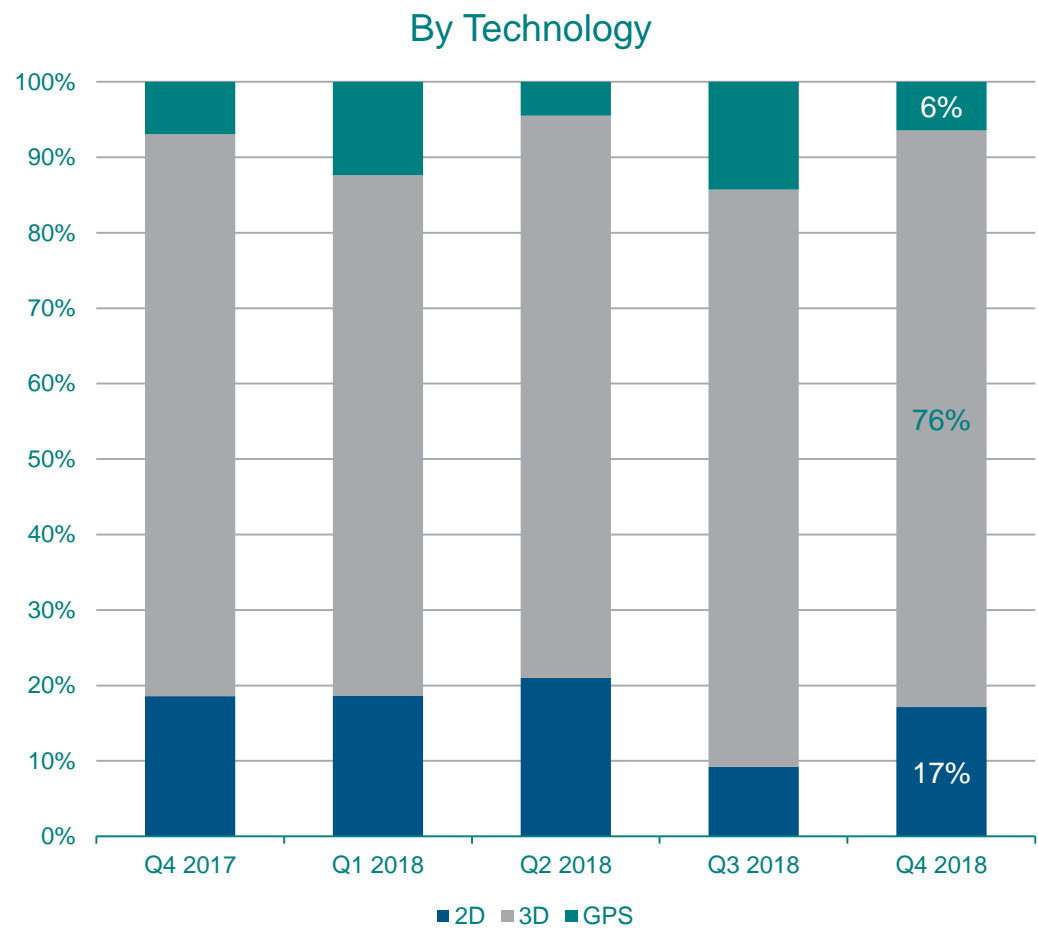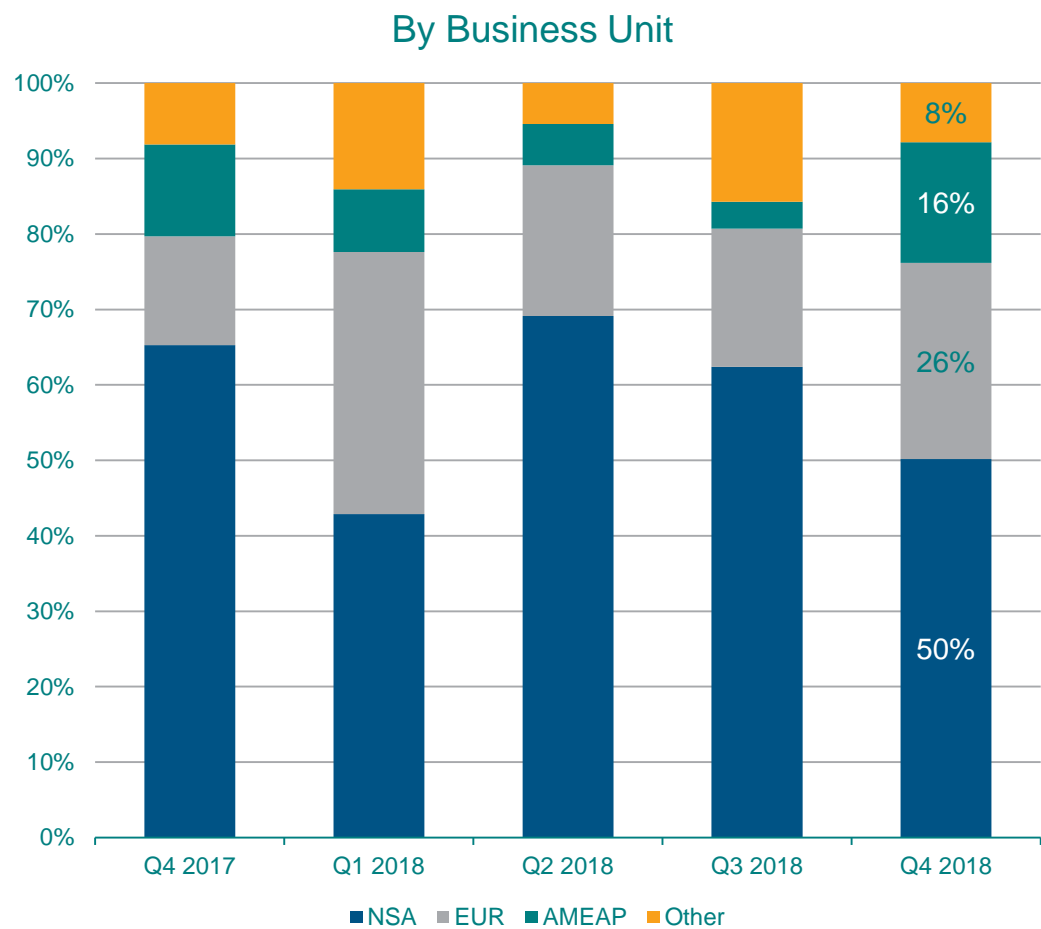
Operating Expenses, EBIT, Free Cash Flow
Segment Reporting

Operating costs[1]

+23% Y/Y

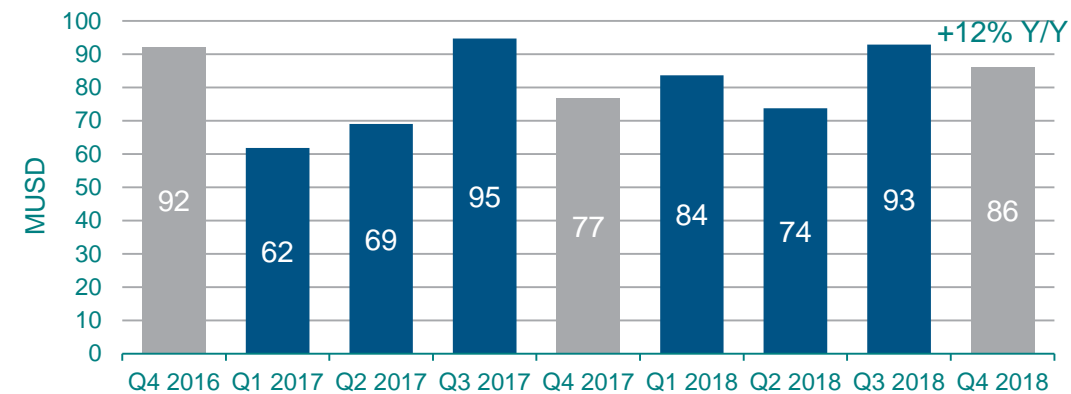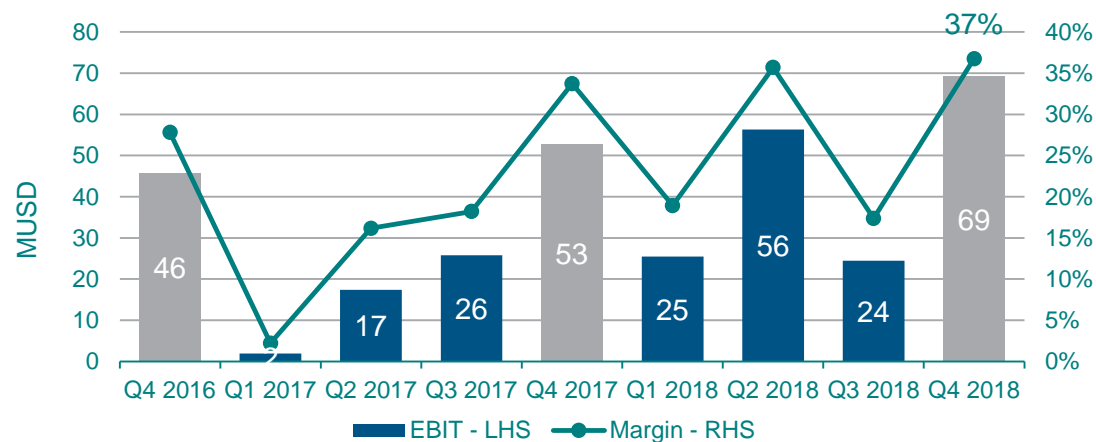|	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018
MUSD	24	19	18	19	25	23	25	21	31
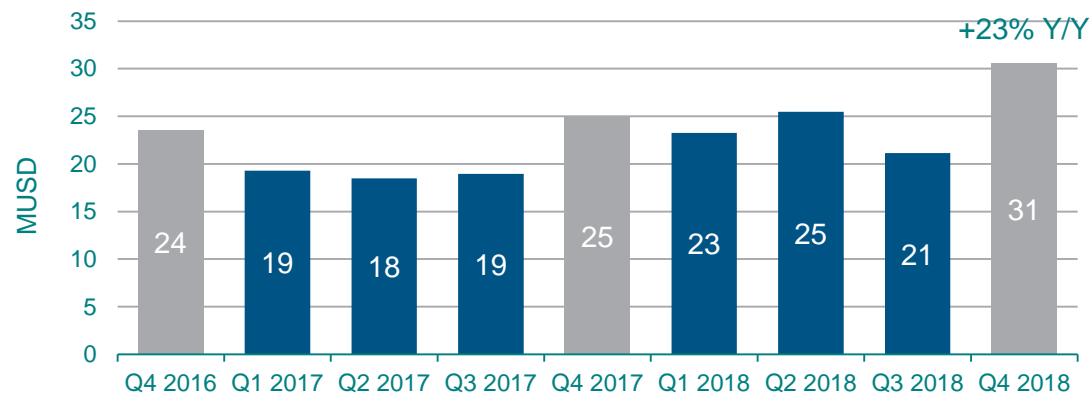
1. Personnel costs and other operating expenses excluding restructuring charges and larger impairments of operating items

Amortization and impairments

+12% Y/Y

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018
MUSD	92	62	69	95	77	84	74	93	86

EBIT[2]

37%

	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018
MUSD	46	2	17	26	53	25	56	24	69

EBIT - LHS   Margin - RHS
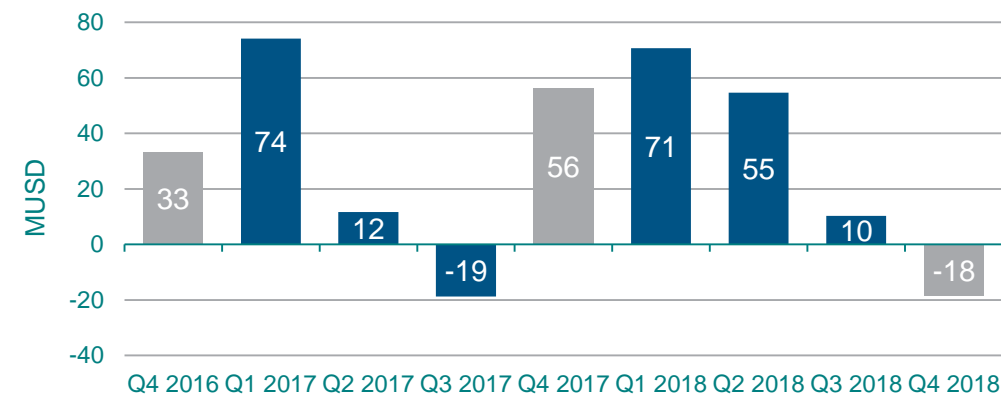
2. Earnings before interest and taxes excluding restructuring charges and larger impairments of operating items

Free Cash Flow[3]

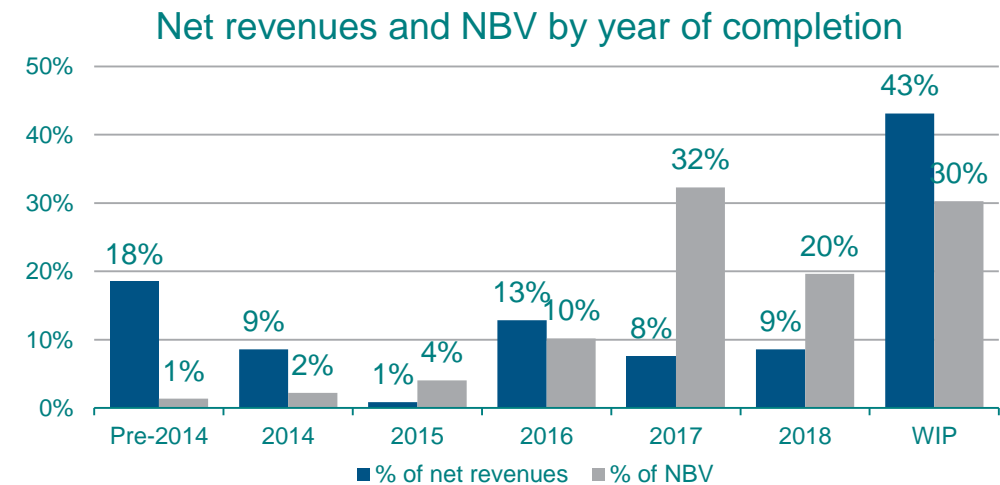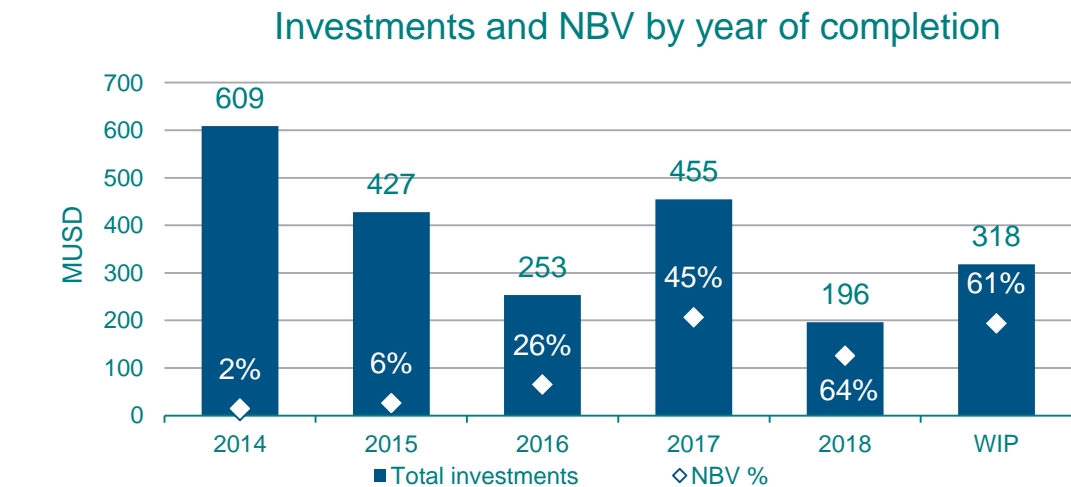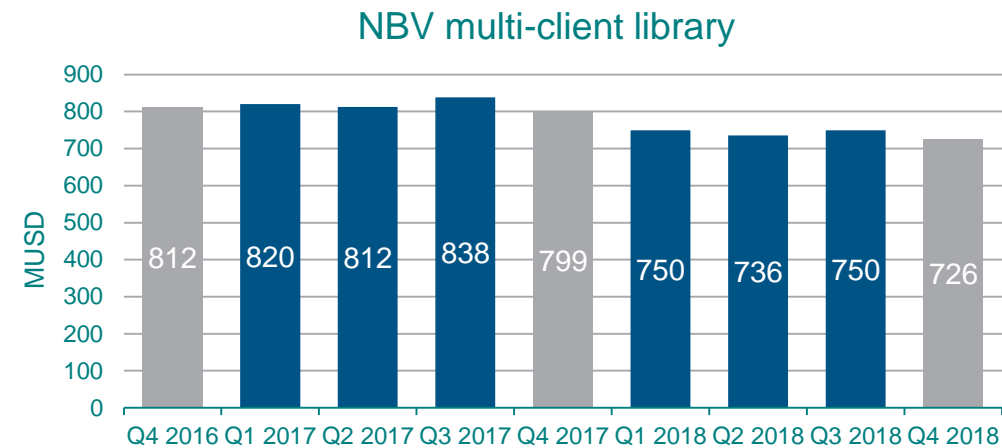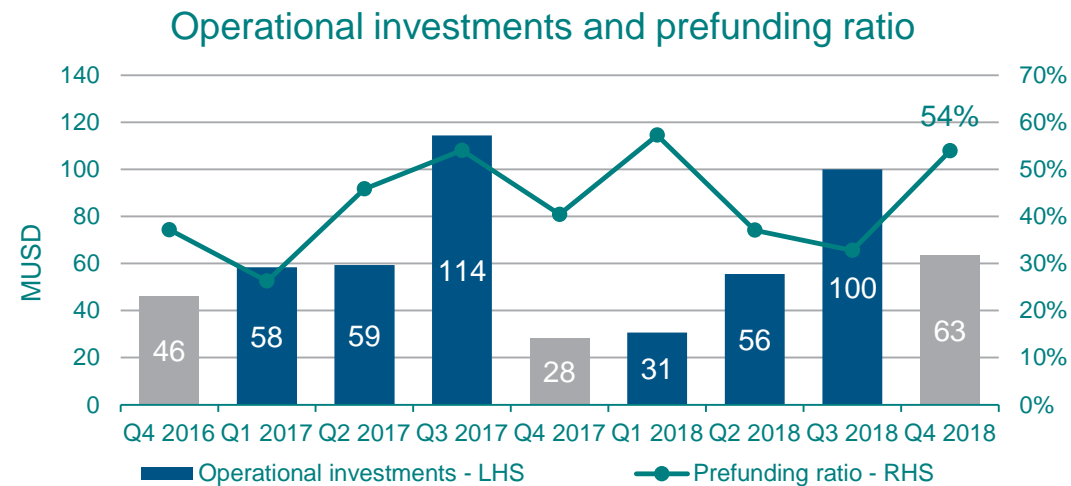|	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018
MUSD	33	74	12	-19	56	71	55	10	-18

3. Cash flow from operations minus operational investments in multi-client projects

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Multi-client Library
Segment Reporting

Operational investments and prefunding ratio
NBV multi-client library
Investments and NBV by year of completion
Net revenues and NBV by year of completion

Income Statement
Segment Reporting

(MUSD)		Q4 2018	Q4 2017	Change
Net operating revenues		**188.3**	**156.7**	**20%**
Cost of goods sold		0.3	0.1	244%
Personnel cost		21.6	17.4	24%
Other operational costs		9.8	8.7	13%
Cost of stock options		0.0	0.0	n/a
EBITDA	**83%**	**156.7**	**130.5**	**20%**
Amortization of multi-client library		86.1	76.8	12%
Depreciation		2.2	2.1	4%
Operating result	**36%**	**68.4**	**51.6**	**32%**
Net financial items		1.3	1.4	-4%
Result before taxes	**37%**	**69.7**	**53.0**	**32%**
Tax cost	12%	8.4	-2.0	n/a
Net income	**33%**	**61.3**	**55.0**	**11%**
EPS (USD)		0.60	0.54	11%
EPS fully diluted (USD)		0.59	0.53	11%

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Cash Flow Statement

(MUSD)	Q4 2018	Q4 2017	Change
Received payments	119.9	172.7	-31%
Payments for operational expenses	-28.9	-34.0	-15%
Paid taxes	-28.6	-1.4	1983%
Net cash flow from operating activities	**62.4**	**137.3**	**-55%**
Investment in tangible fixed assets	-10.7	-1.5	593%
Investments in multi-client library	-80.8	-81.2	0%
Investments through mergers and acquisitions	0.0	0.0	n/a
Interest income	1.4	1.6	-11%
Net Cash Flow from investing activities	**-90.1**	**-81.1**	**11%**
Net change in loans	0.0	0.0	n/a
Interest expense	-0.4	-0.2	118%
Payment of dividends	-20.5	-15.3	34%
Paid in equity	0.0	3.9	-100%
Net cash flow from financing activities	**-20.9**	**-11.5**	**81%**
Net change in cash and cash equivalents	**-48.7**	**44.7**	**-209%**

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Balance Sheet
Segment Reporting

(MUSD)	Q4 2018	Q4 2017	Change
Goodwill	67.9	67.9	0%
Multi-client library	726.1	799.0	-9%
Deferred tax asset	0.4	4.4	-90%
Other non-current assets	31.4	29.2	7%
Total non-current assets	**825.9**	**900.5**	**-8%**
Cash and cash equivalents	273.5	249.9	9%
Other current assets	379.5	273.6	39%
Total current assets	**653.0**	**523.6**	**25%**
TOTAL ASSETS	**1,478.9**	**1,424.1**	**4%**
Total equity	**1,265.5**	**1,200.1**	**5%**
Deferred taxes	27.2	23.7	15%
Non-current liabilities	5.0	5.3	-6%
Total non-current liabilities	**32.2**	**29.1**	**11%**
Taxes payable, withheld payroll tax, social security	27.1	25.2	7%
Other current liabilities	154.2	169.8	-9%
Total current liabilities	**181.2**	**194.9**	**-7%**
TOTAL EQUITY AND LIABILITIES	**1,478.9**	**1,424.1**	**4%**

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Outlook

Thin balance in the oil market when taking uncertainty in US production growth into consideration

World liquid fuels stock build/(draw)

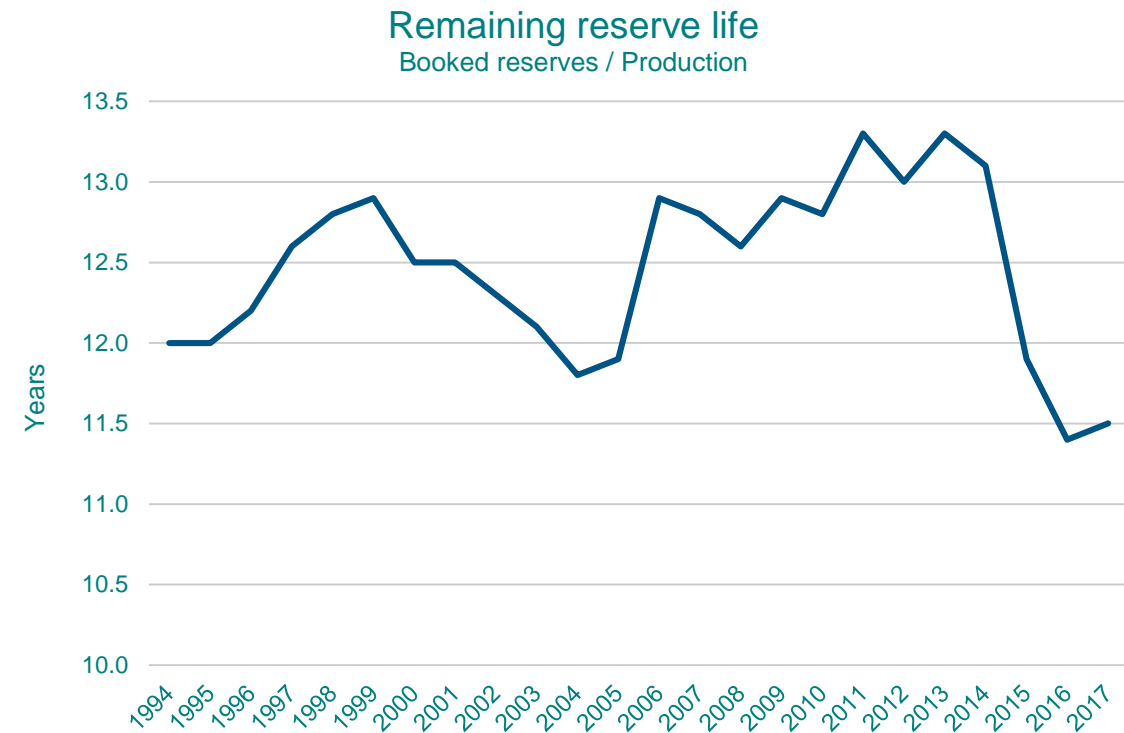Estimated 2019 supply surplus vs. US production growth estimates
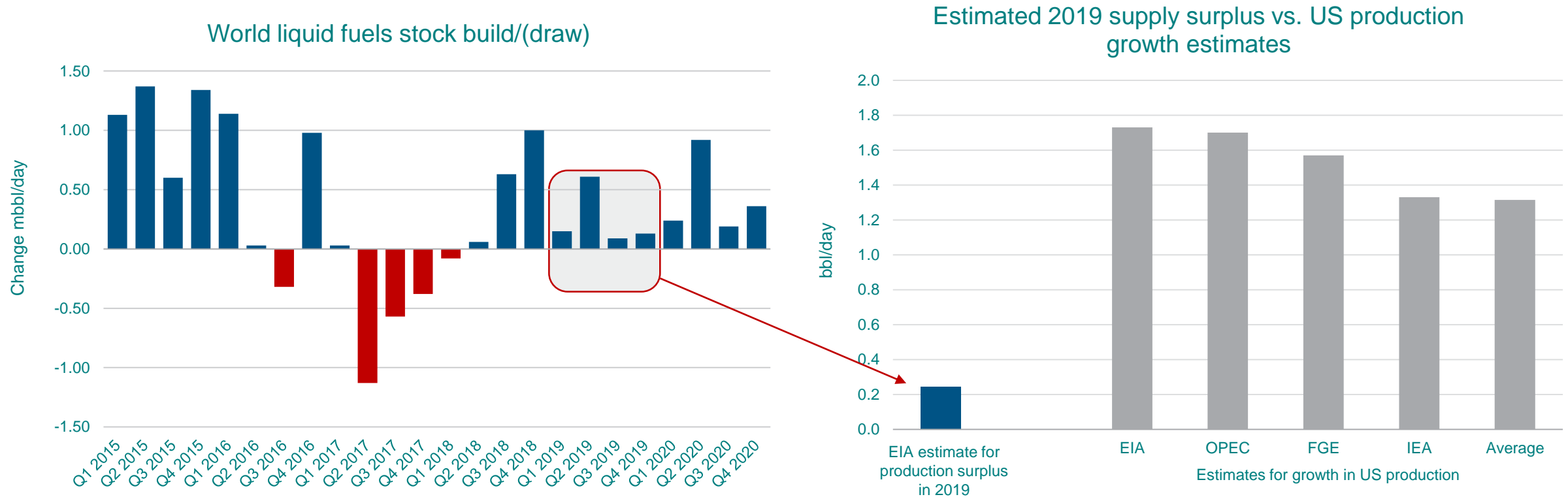
- EIA estimates a slight supply surplus in 2019…
- …but EIA is in the high-end of the range with respect to US production growth estimates in 2019

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Exploration activity has to increase

Exploration spending and Reserve Replacement Ratio

Remaining reserve life
Booked reserves / Production
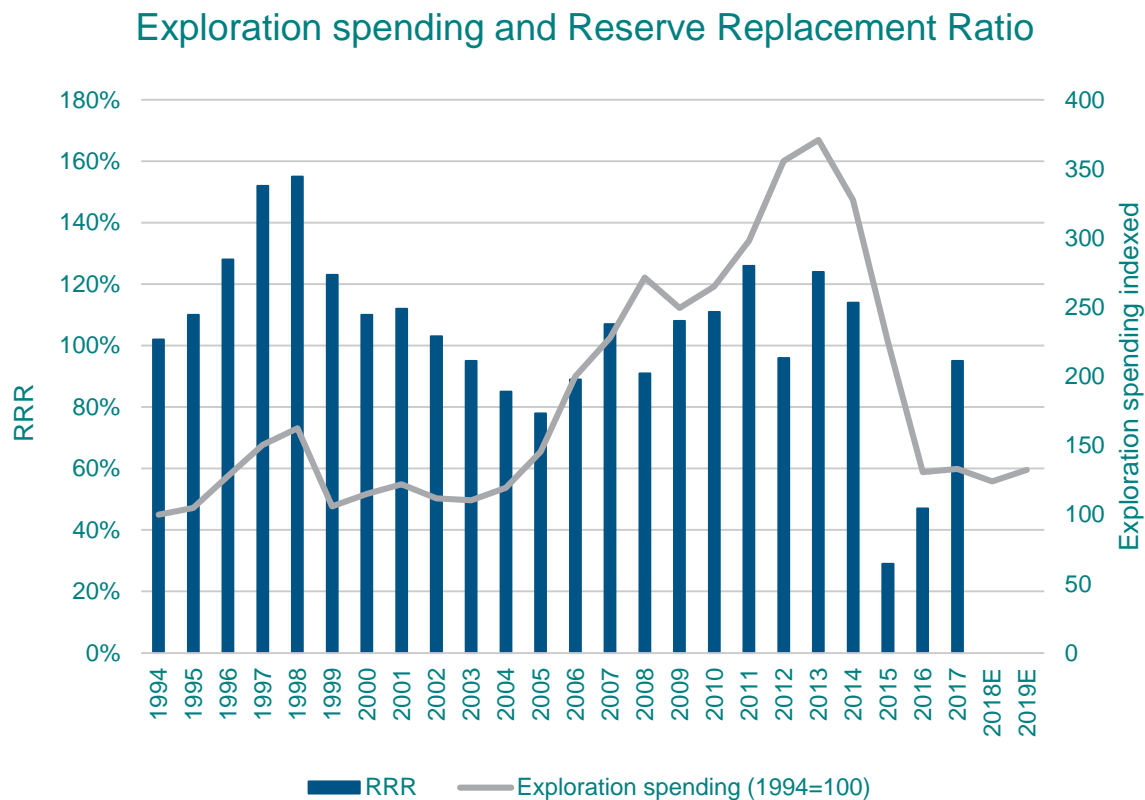
RRR — Exploration spending (1994=100)

Low spending driving down RRR…

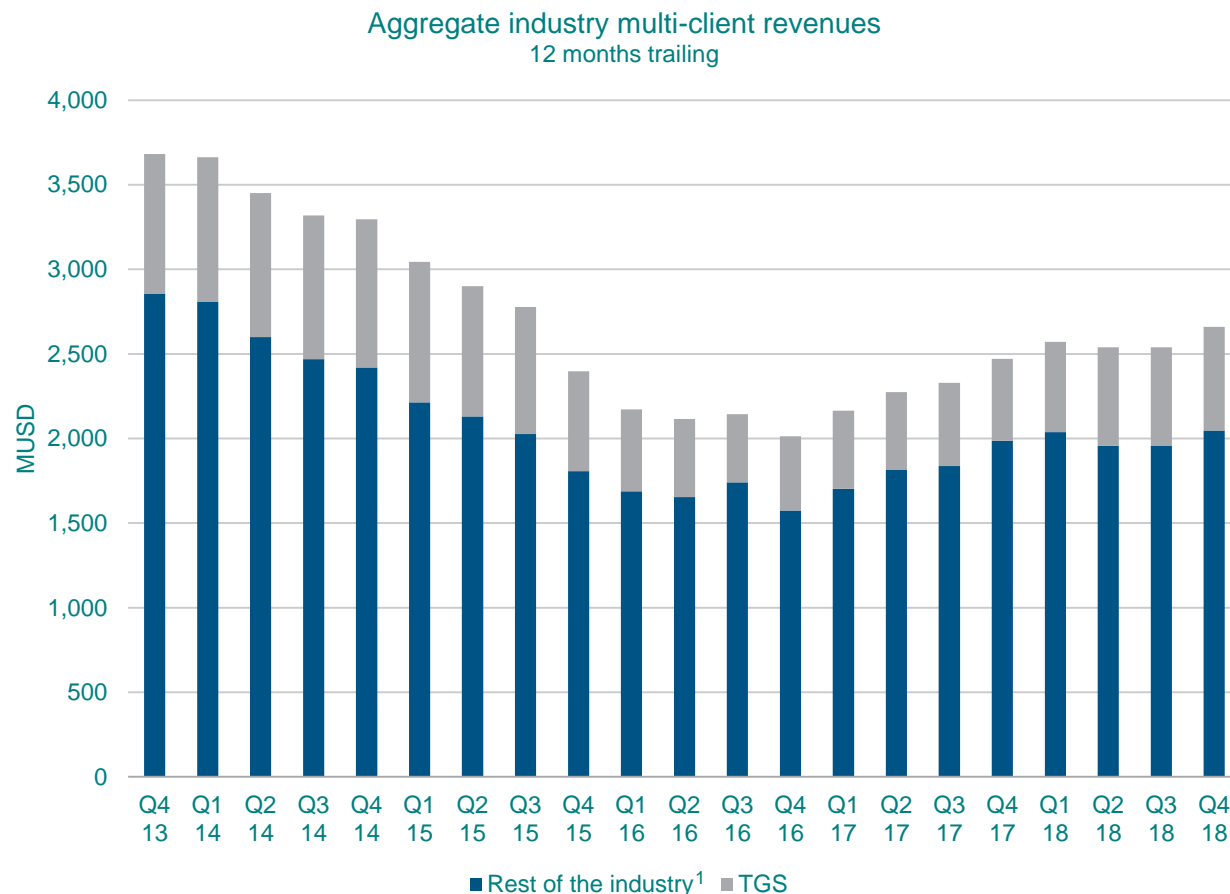...resulting in falling remaining reserve life

Cash flow supporting increased E&P spending

- Most observations point to E&P spending growth of 5-10% in 2019

- Exploration spending traditionally has higher beta

- Several positive revisions of offshore spending and negative revision of onshore spending seen lately

2019 growth

7%	13%
E&P spending	**Exploration spending**
Based on guidance/indications from 20 E&P companies	Based on guidance/indications from 13 E&P companies

Source: Carnegie

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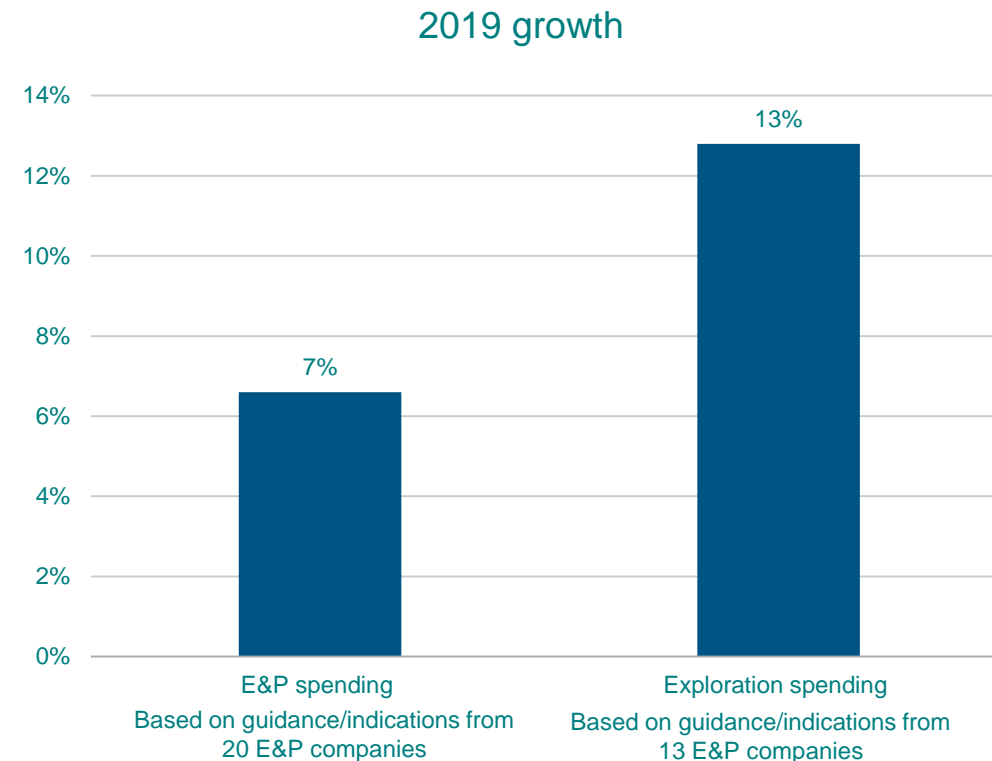
Multi-client spending still some way off pre-2015 levels

Aggregate industry multi-client revenues
12 months trailing

- Total industry multi-client sales growing 8% in 2018:
  - TGS +26%
  - Rest of the industry[1] +3%

- 32% above 2016 through, but still well below pre-2015 levels

1. PGS, WesternGeco, CGG, Spectrum, ION, Seitel, Polarcus (Segment revenues); companies that have not yet reported Q4 2018 are included with revenue growth equal to the average of the others

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Net revenue backlog
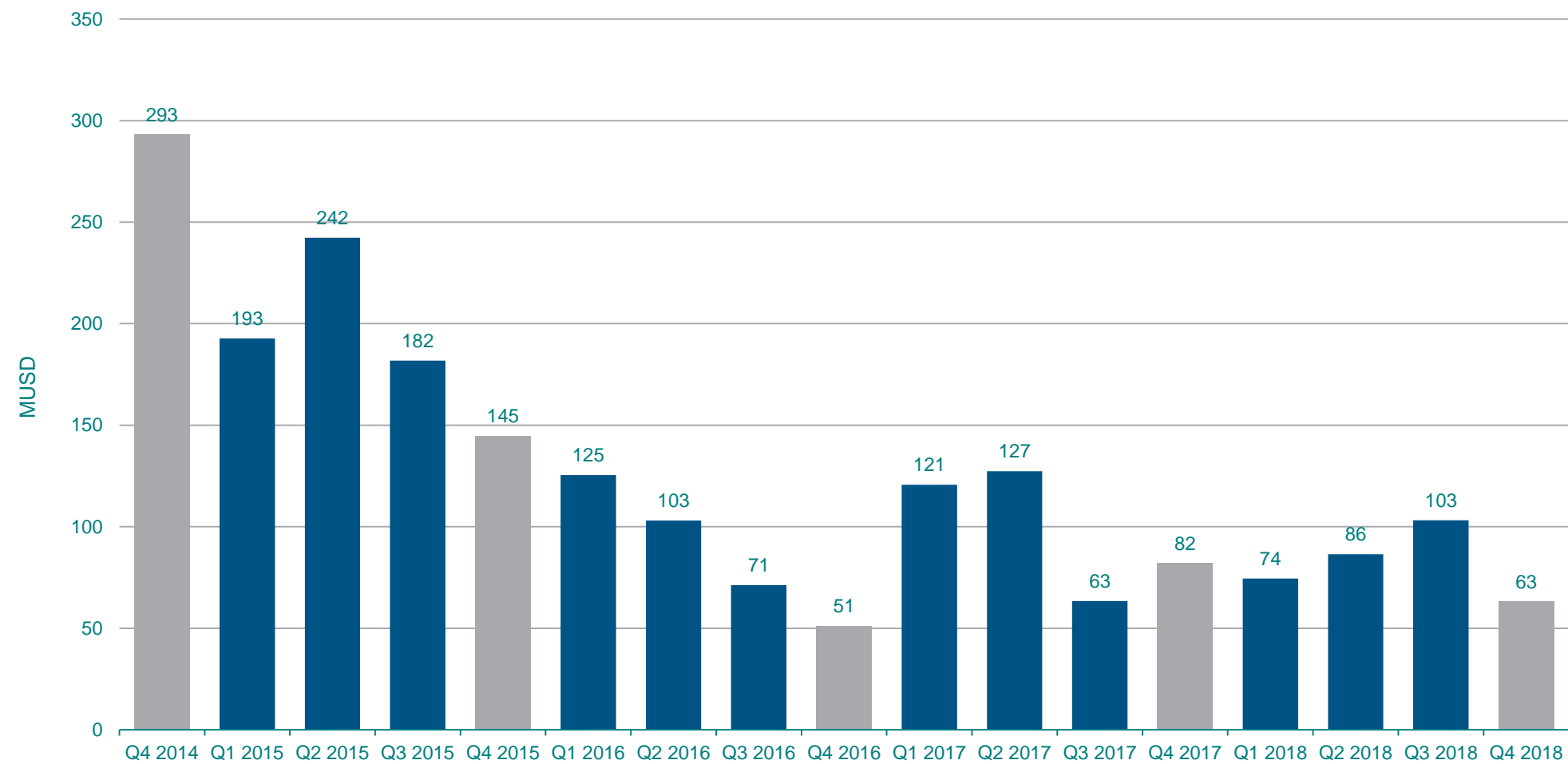
2019 Projects Schedule*

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2D/Seaseep	Fugro Brasilis			Brazil (Multibeam)									
	TDI Brooks Proteus				Brazil (Coring)								
	M/V Gyre	W Africa (SeaSeep)											
3D	BGP Prospector	W Africa (MSGBC JV)											
	COSL HYSY 720	Brazil (Santos JV)											
	Fairfield Nodal I					Gulf of Mexico (OBN)							
	Axxis Crew 1				North Sea (OBN)								
Land	SCOOP/STACK Crew	Canton											
	SCOOP/STACK Crew II	Gloss Mountain Phase 1						Gloss Mountain Phase 2					

*Acquisition schedule excludes processing projects and GPS investments

NSA   EUR   AMEAP

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2019 guidance

- Growth in multi-client investments of approximately 20%

- Pre-funding of new multi-client investments expected to be 40-45%

- Amortization to be at approximately same level as 2018

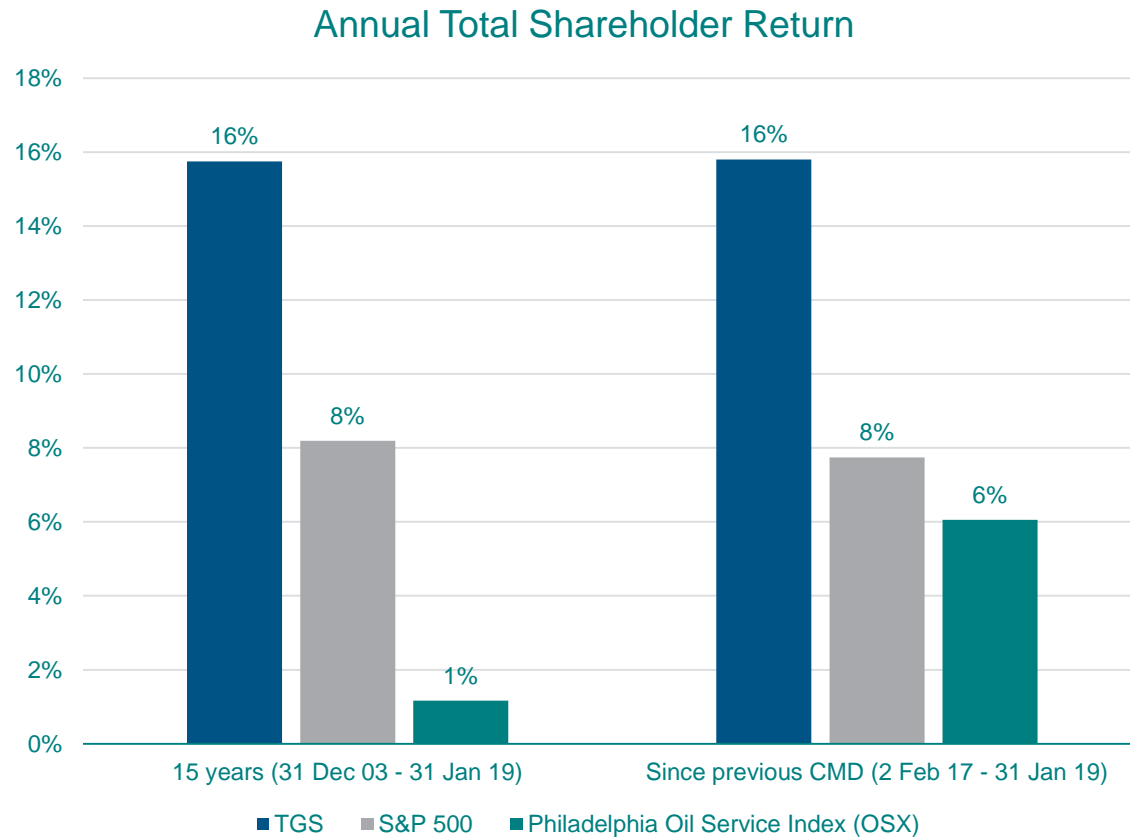Operational investments in new multi-client projects
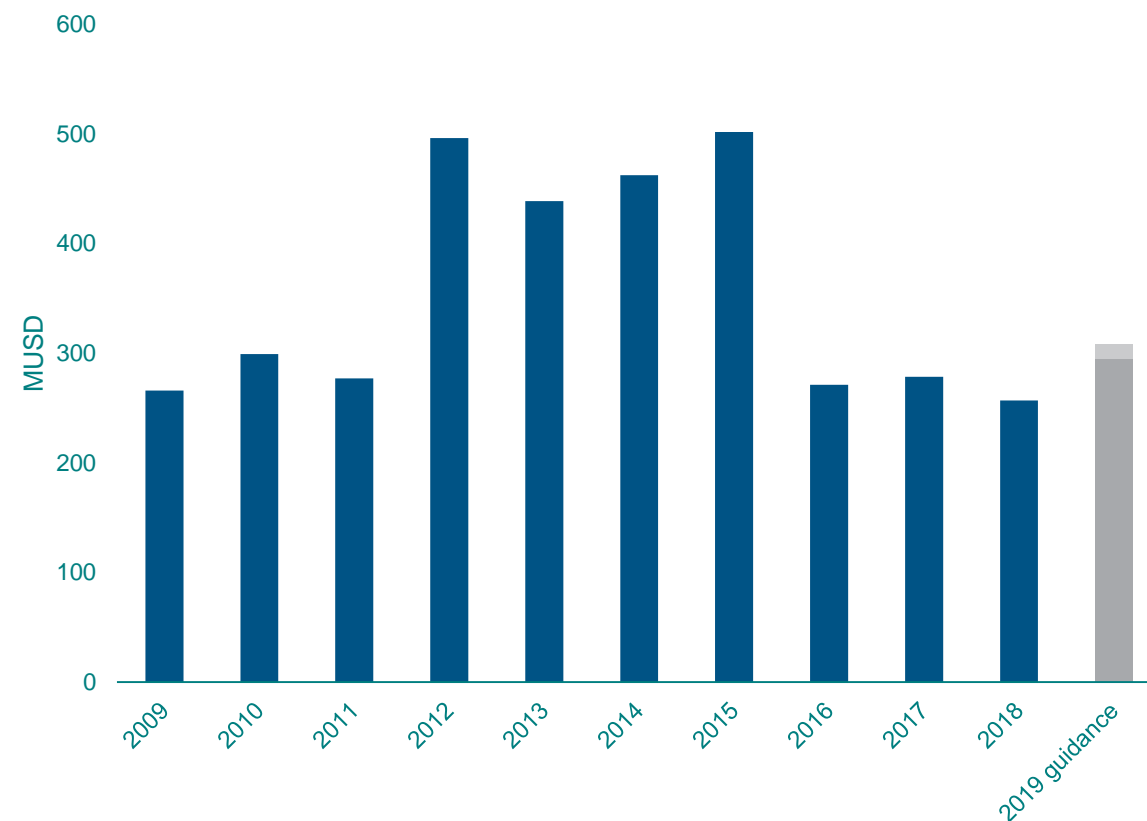
Q&A

# Financial strategy

Superior value creation

Annual Total Shareholder Return

- TGS has created superior shareholder value over time

- Outperforming both other oil services stocks and the broader stock market significantly

Source: Capital IQ, Bloomberg

Chart legend: TGS, S&P 500, Philadelphia Oil Service Index (OSX)

15 years (31 Dec 03 - 31 Jan 19): TGS 16%, S&P 500 8%, OSX 1%

Since previous CMD (2 Feb 17 - 31 Jan 19): TGS 16%, S&P 500 8%, OSX 6%

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TGS's financial priorities

Maximize Return on Capital Employed

Maximize Cash Flow

Returning Excess Capital to Shareholders
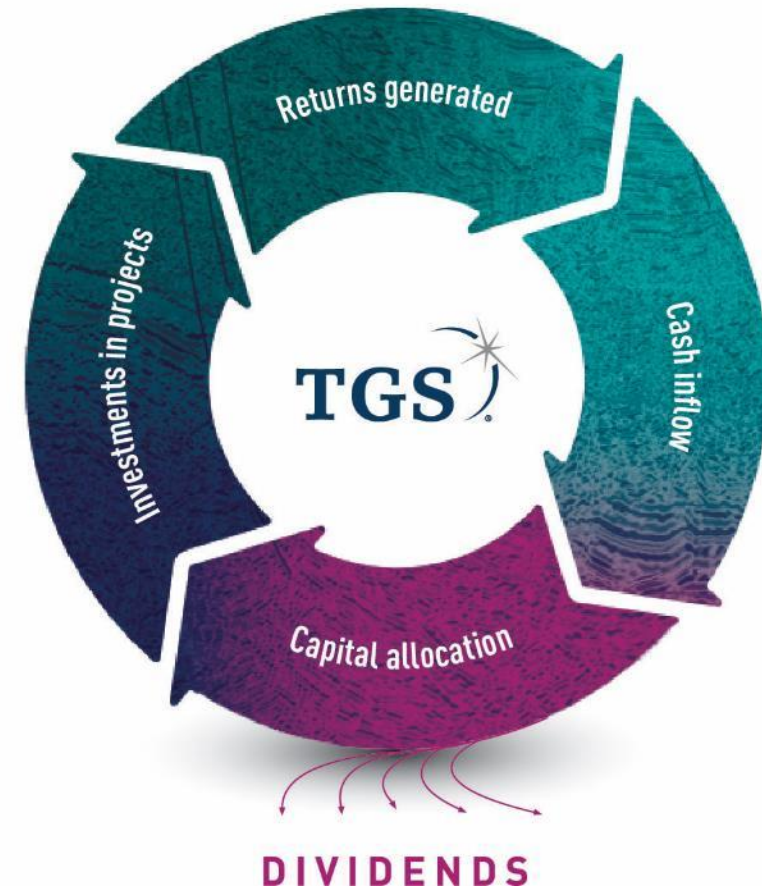
Return on Capital Employed recovering

Maximize Return on Capital Employed

Maximize Cash Flow

Returning Excess Capital to Shareholders

Return on Capital Employed[1]

33%	15 years (2004-2018)
14%	Since previous CMD (2017-2018)
18%	2018
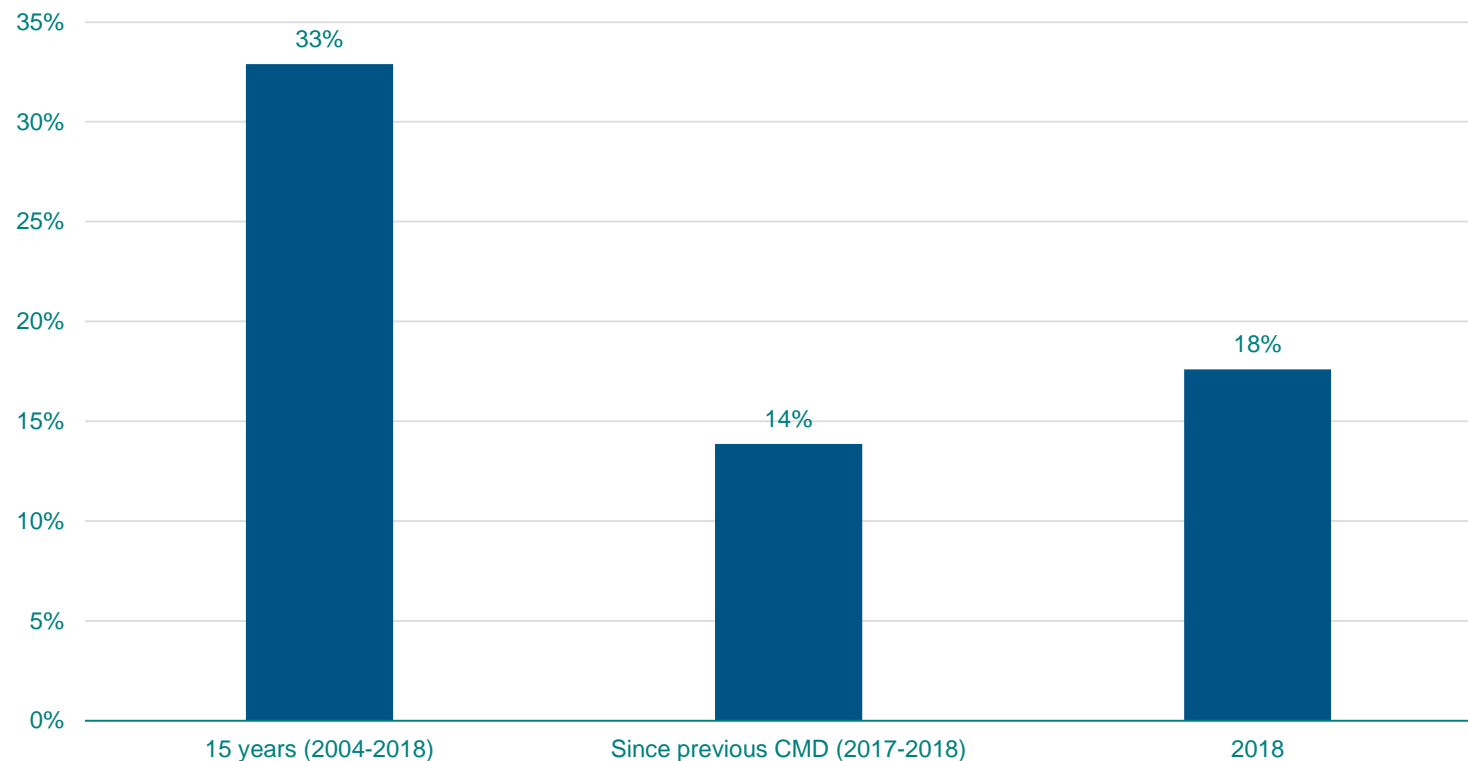
1. *Return on average capital employed = EBIT / Average capital employed*
   Capital employed = Equity + Net interest-bearing debt
   Annual average over indicated period

Outperforming most other oil services companies

Maximize Return on Capital Employed

Maximize Cash Flow

Returning Excess Capital to Shareholders

2018 ROCE*
TGS versus OSX companies
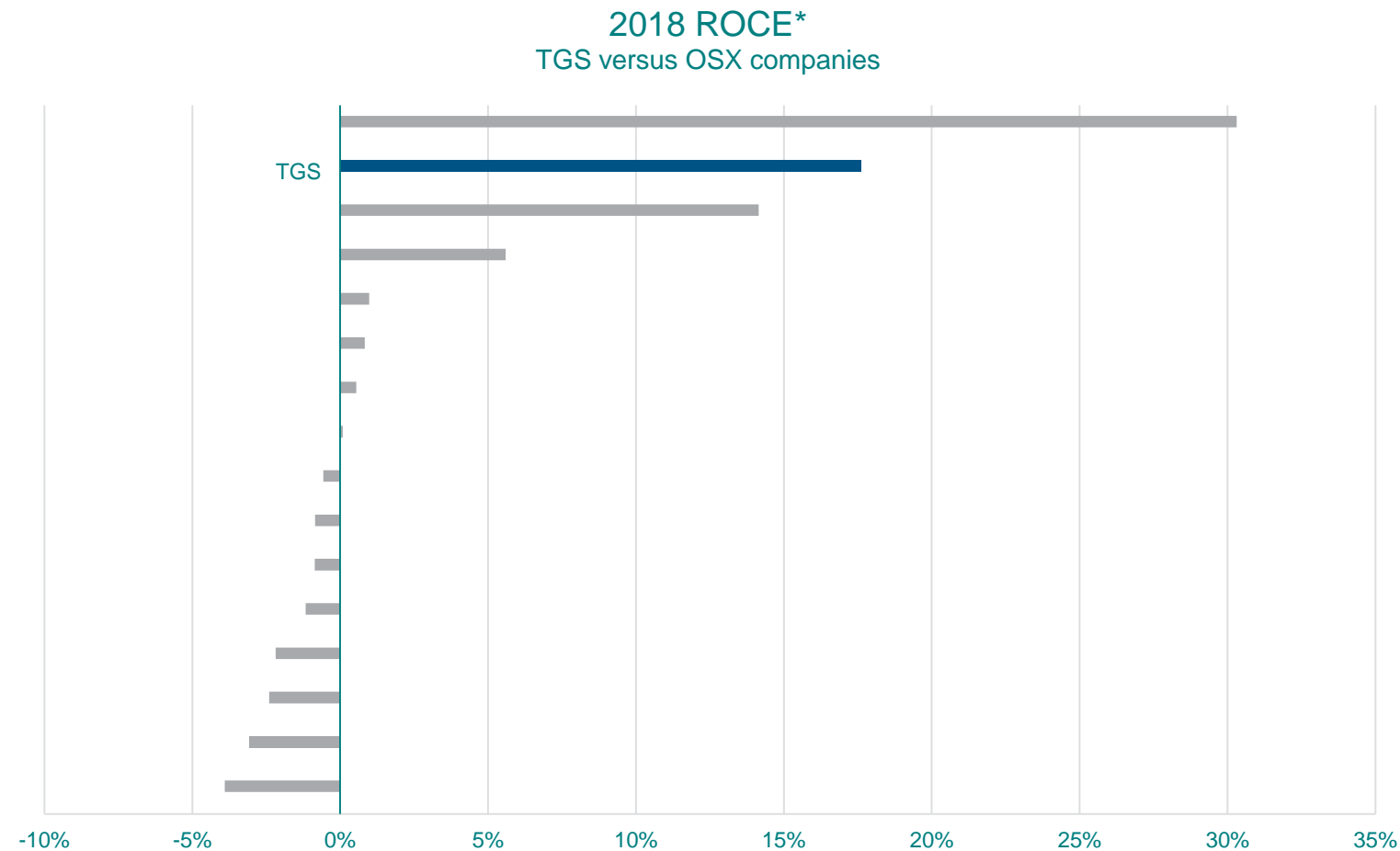
* Rolling 12 months to date of last report

Amortization policy
Segment reporting

- Work in Progress (WIP) phase
  - Amortization based on sales

- After completion
  - Straight-line over four year for most projects
  - Land projects amortized over seven years

- Accelerated amortization
  - When recognition of sales leads to present value of forecasted remaining sales being lower than Net Book Value

Example project	WIP phase	Year 1	Year 2	Year 3	Year 4	Total
Investment	100	0	0	0	0	**100**
Pre-funding revenues	50	0	0	0	0	50
Additional WIP sales	30	0	0	0	0	30
Late Sales after completion	0	80	20	20	0	120
Total revenues	**80**	**80**	**20**	**20**	**0**	**200**
WIP amortization pre-funding	25	0	0	0	0	25
WIP amortization additional sales	15	0	0	0	0	15
Straight-line amortization	0	15	15	15	0	45
Accelerated amortization	0	0	0	15	0	15
Total amortization	**40**	**15**	**15**	**30**	**0**	**100**
Net Book Value	**60**	**45**	**30**	**0**	**0**	**0**

- Project example
  - Investment 100
  - Sales/investment 2.0x
  - Pre-funding 50%
  - Additional sales in WIP phase 30

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2019 Amortization
Segment reporting

- 2019 guidance: Approximately same level as in 2018

- Straight-line amortization
  - Likely to be slightly lower in 2019 than in 2018

- WIP amortization
  - Expected higher investments and pre-funding revenues
  - Possibly further increase from potential additional sales of projects in the WIP phase
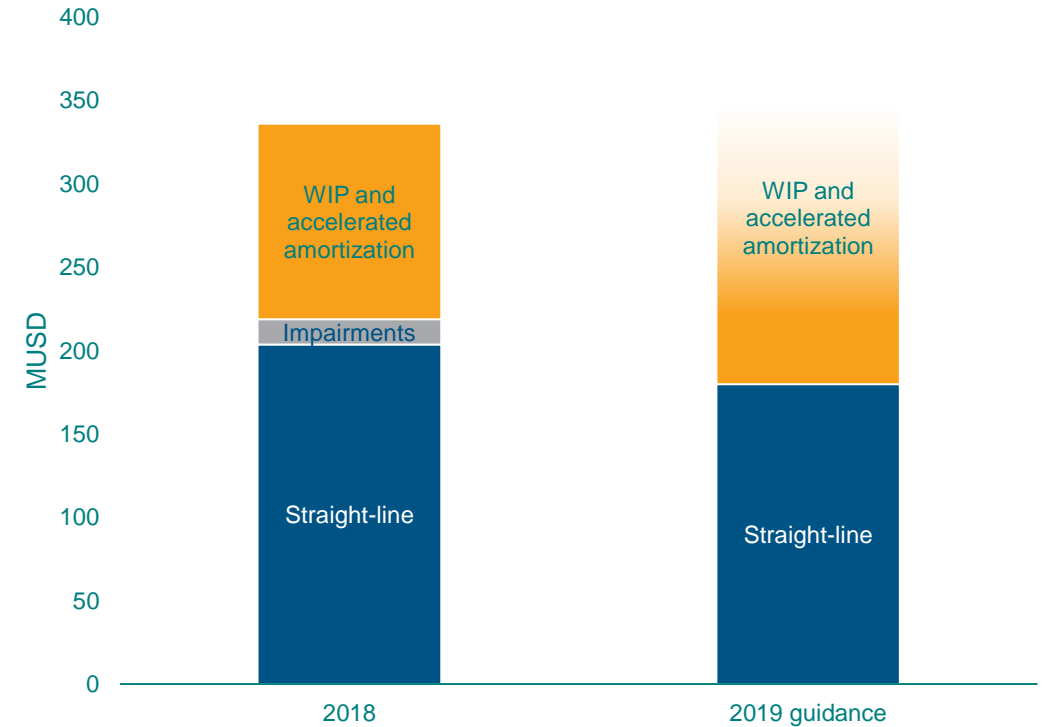
Return impact integral part of decision processes

Maximize Return on Capital Employed
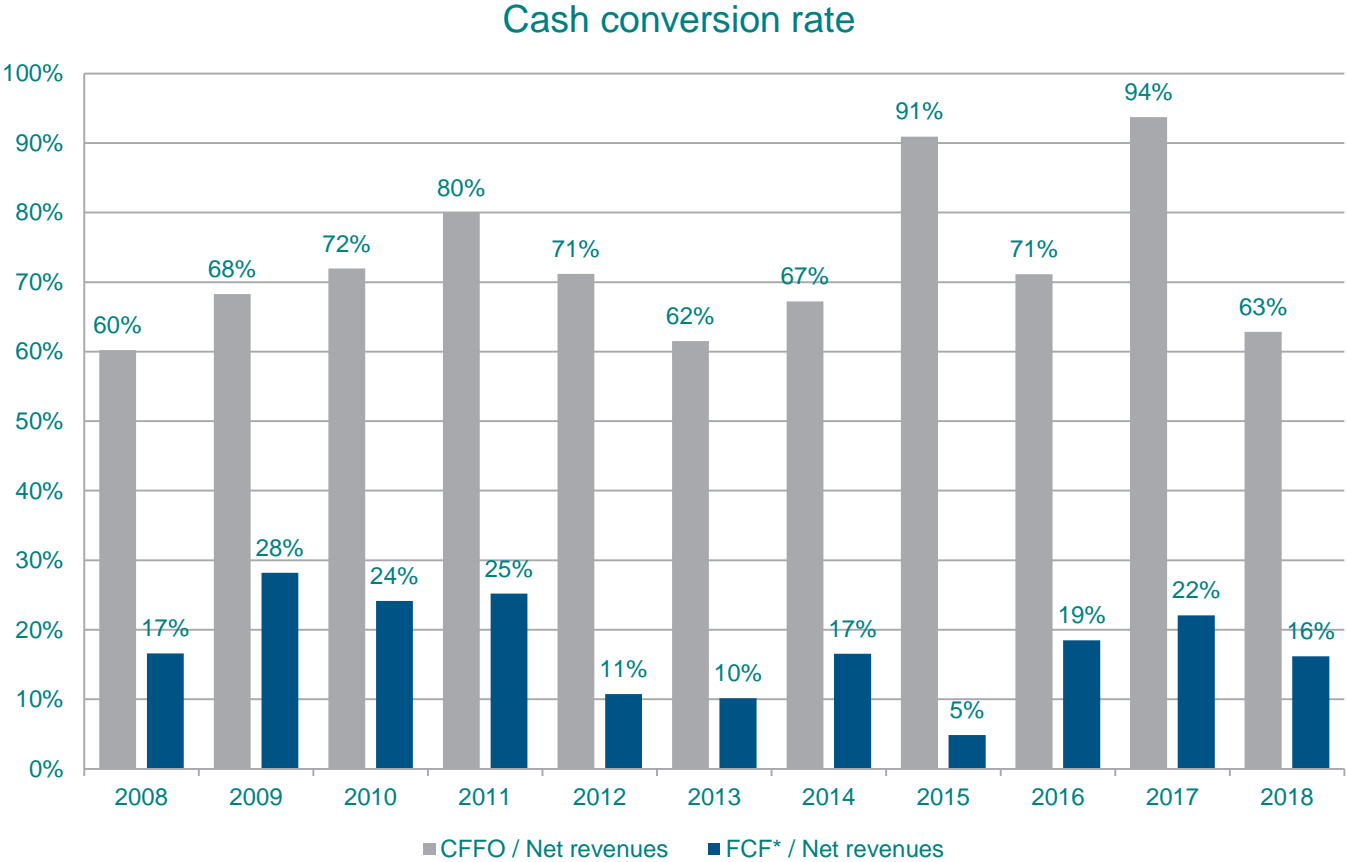
Maximize Cash Flow

Returning Excess Capital to Shareholders

- Strict emphasis on return in evaluation of new multi-client projects

- Focus on survey life – almost 100% incremental margin on vintage sales

- Streamlining Working Capital

- Portfolio thinking – risk/reward of portfolio better than the sum of the individual projects

- ROCE key metric in long-term incentive plans

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Consistently strong cash flow

Maximize Cash Flow

Cash conversion rate

■ CFFO / Net revenues   ■ FCF* / Net revenues

* Free Cash Flow (FCF) calculated as Net Cash Flow from Operating activities minus Net Cash Flow from Investing activities

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Industry leading cash conversion

Maximize Return on Capital Employed

Maximize Cash Flow

Returning Excess Capital to Shareholders

2018 Cash Conversion Rate*
TGS versus OSX companies
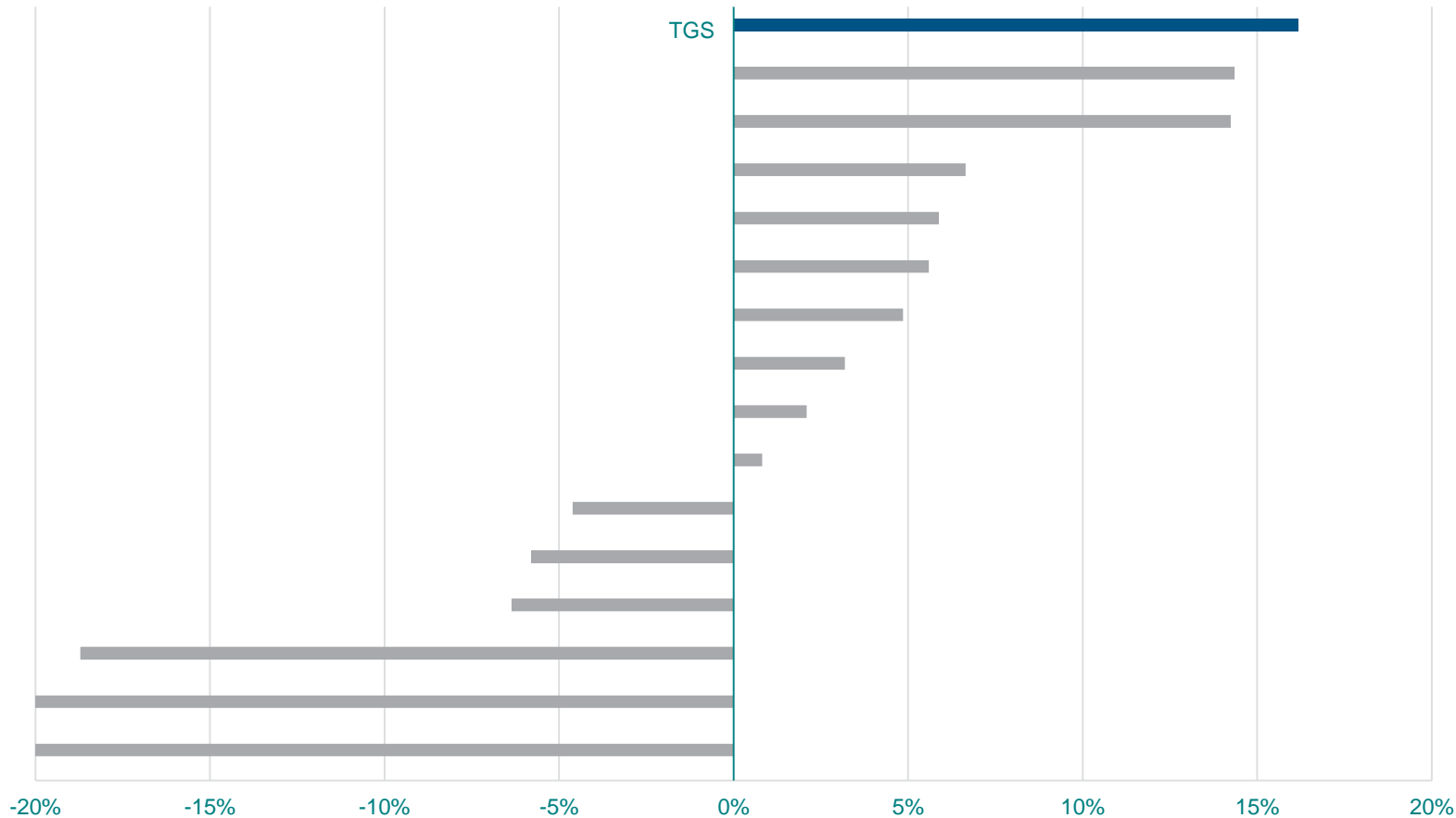
* Free Cash Flow / Net revenues. Rolling 12 months to date of last report

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Cash and cost are always on our minds

Maximize Return on Capital Employed

Maximize Cash Flow

Returning Excess Capital to Shareholders

- Strict cost control – entire organization focused on cost and cash

- Pro-active cash collection efforts

- Strong correlation between cash in- and outflow

- Quality project management to ensure projects are completed at (or below) budget

- Improved forecasting

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Returning excess capital to shareholders

Maximize Return on Capital Employed

Maximize Cash Flow

Returning Excess Capital to Shareholders

Dividend policy:

It is the ambition of TGS to pay a cash dividend that is in line with its long-term underlying cash flow. When deciding the dividend amount, the TGS Board of Directors will consider expected cash flow, investment plans, financing requirements and a level of financial flexibility that is appropriate for the TGS business model.

Implementation:

- *Paid quarterly in NOK, but defined in USD*

- *New dividend level set in Q1 every year*

- *Aim at keeping a steady quarterly dividend through the year*

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Quarterly dividend increased by 35%

Maximize Return on Capital Employed

Maximize Cash Flow

Returning Excess Capital to Shareholders

- Quarterly dividend of USD 0.27 per share to be paid in Q1 2019

- Increase of 35 %

- Ex-date 14 February 2019

- Payment date 28 February 2019

Dividend per share[1]
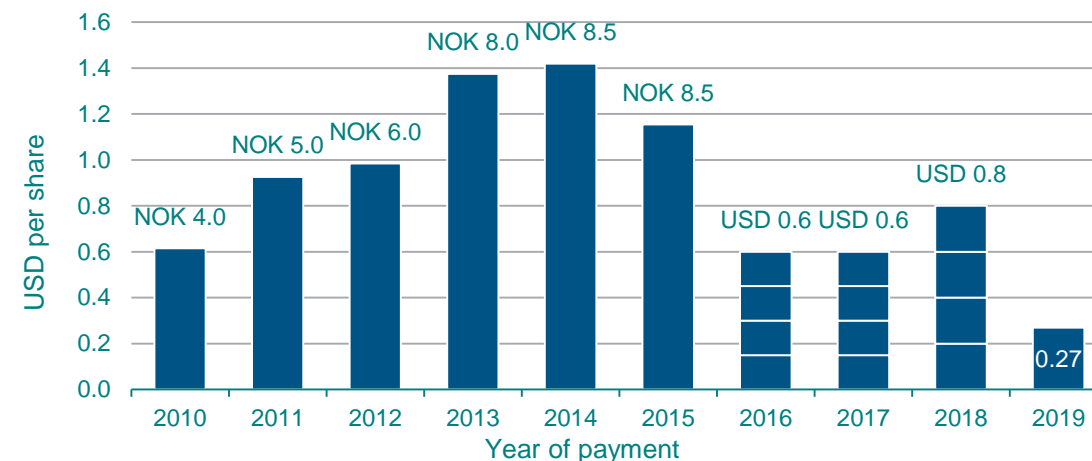
Dividend yield[2]
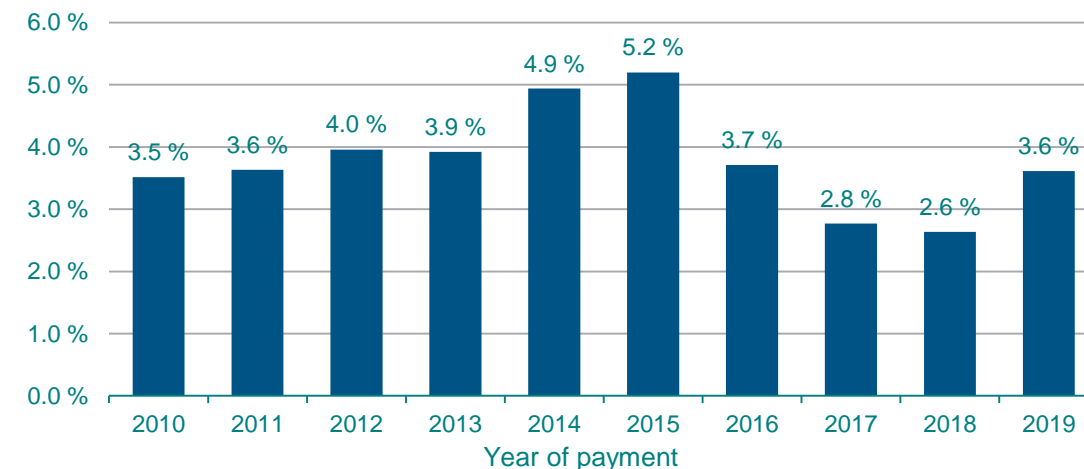
1. Quarterly dividends defined in USD from 2016. Annual dividends defined in NOK prior to 2016 – converted to USD with the FX rate at the ex-dividend dates
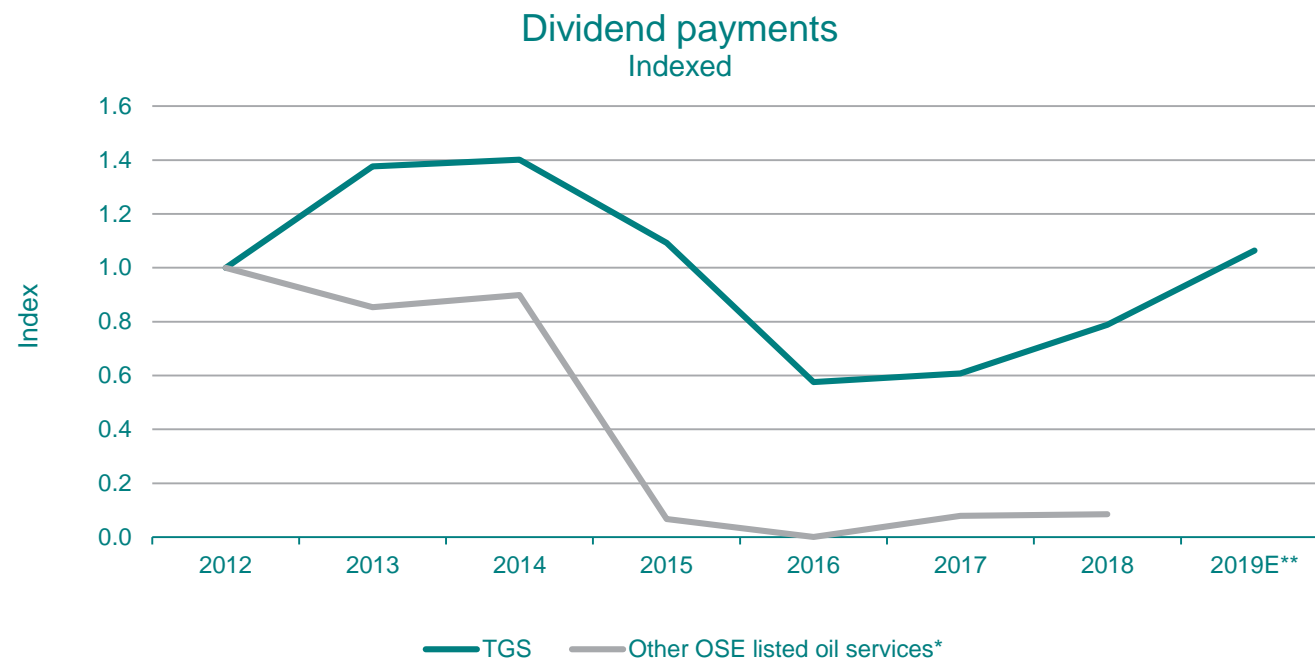
2. Yield based on share price at date of announcing the dividend. From 2016-18 yield is caluclated using the average of the quarterly payments

TGS

Paying dividends through the downturn

Maximize Return on Capital Employed

Maximize Cash Flow

Returning Excess Capital to Shareholders
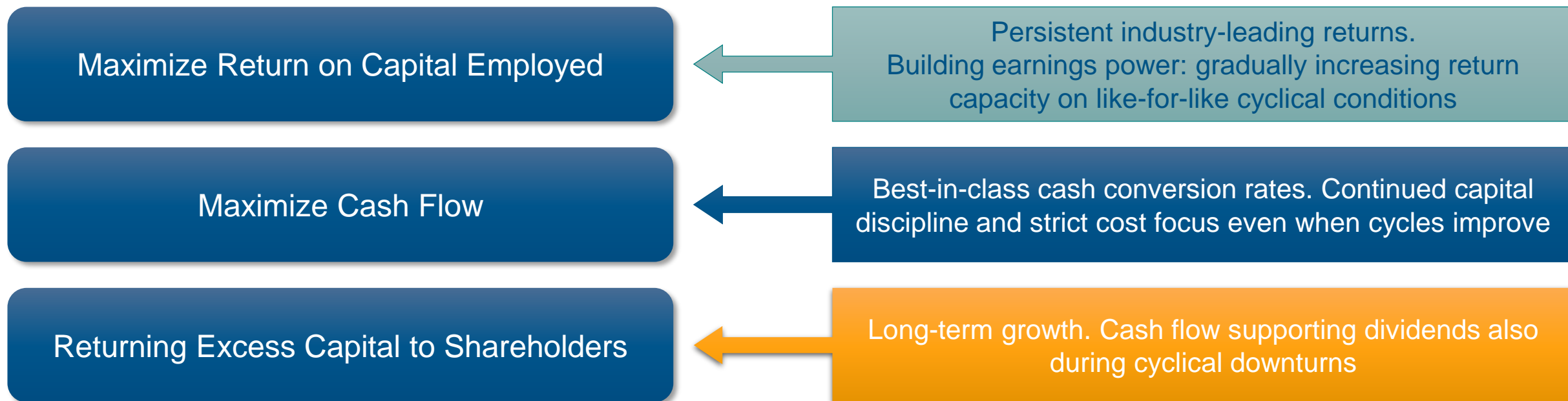
Dividend payments
Indexed

* AKA, AKSO, BWO, DDASA, KVAER, PGS, PRS, SOFF, SPU, SDRL

Source: Capital IQ

** Assuming that TGS continues to pay the quarterly dividend announced for Q1 2019 for the rest of the year*

- Solid cash flow paves the way for dividend payments even when markets are weak

- TGS one of few oil service companies that kept paying dividends through the downcycle

Summary: What can you expect from TGS?

Maximize Return on Capital Employed ← Persistent industry-leading returns. Building earnings power: gradually increasing return capacity on like-for-like cyclical conditions

Maximize Cash Flow ← Best-in-class cash conversion rates. Continued capital discipline and strict cost focus even when cycles improve

Returning Excess Capital to Shareholders ← Long-term growth. Cash flow supporting dividends also during cyclical downturns

Strategic priorities

We've delivered since our last Capital Markets Day

	Capital Markets Day 2017	Capital Markets Day 2019	
Revenue*	456 MUSD	622 MUSD	**+36%**
MC Sales / MC Investment*	1.6	2.4	**+50%**
ROACE*	5%	18%	**+234%**
Dividend per share*	0.60 USD	0.80 USD	**+33%**
TGS Stock Price**	197.5 NOK	258.20***	**+31%**

*   Prior full year. Segment accounts
** 31 January
***Close 5 February 2019

TGS

Unique equity story in a cyclical industry

- Last 3 years Annual shareholder return of 17%

- Average free cash flow before dividend of 99 million

- Dividend of 203.7 million paid to shareholders

Free Cash Flow last 3 Years*
MUSD

	TGS	Peer #2	Peer #3	Peer #4
	297	56	-208	-248
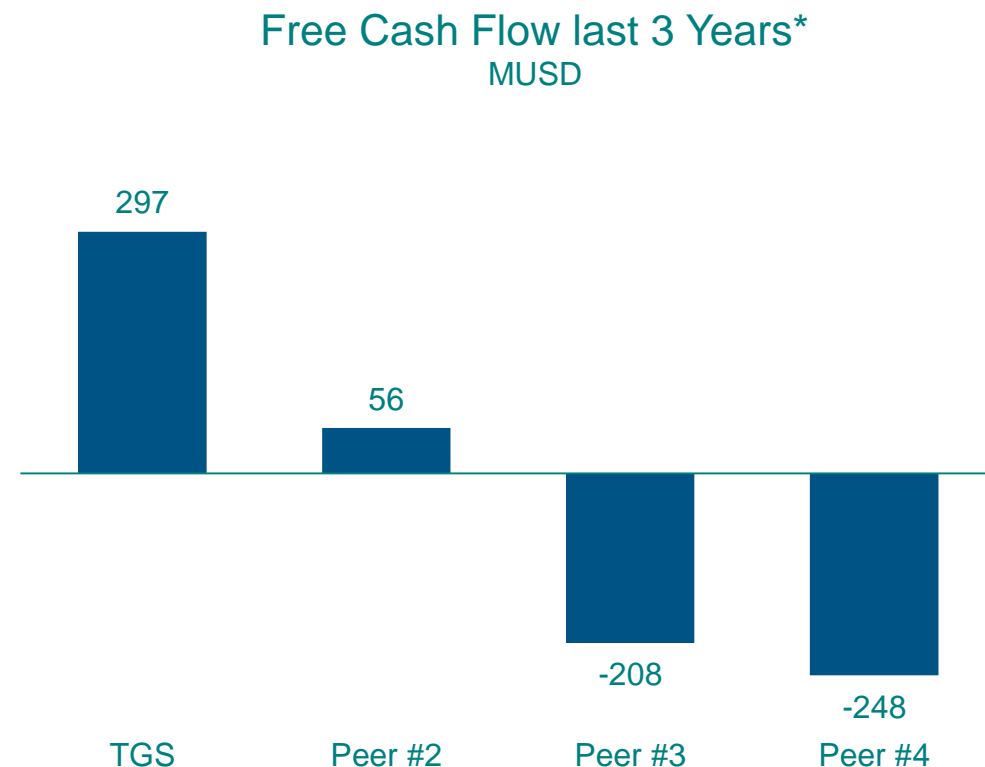
Source: Company reports and Analyst estimates for Q4 2018

Calculated as CFFO - MC investments - Other capex

TGS

What defines our proven track record and performance?

Asset light	Diversification
Technology neutral	Client focus
Solid balance sheet	Performance culture
Lean and mean	Remuneration linked with owners

TGS

Our people and reputation are TGS' most important assets

Employee Turnover

5%

Industry Turnover: 12.6%
(Source: Gartner)

Internal Job Fill

54%

Employee Tenure

- +20 years
- 0-5 years
- 10-20 years
- 5 - 10 years

Customer Engagement

Deliver – Timeliness - Accuracy

- Other
- Low
- Excellent
- Acceptable
- Good

Employee Engagement

- Discretionary Effort
- Culture / Values
- Organization Alignment
- Engagement Score
- Benchmark
- TGS

TGS
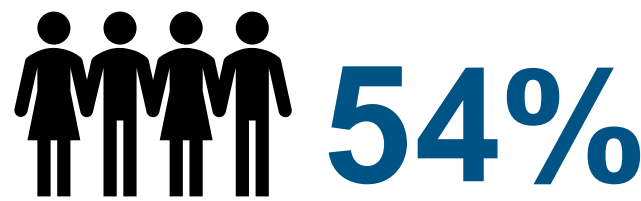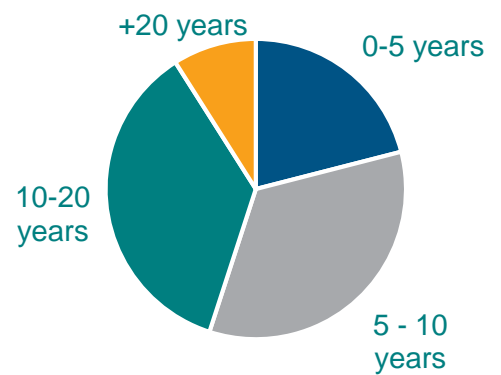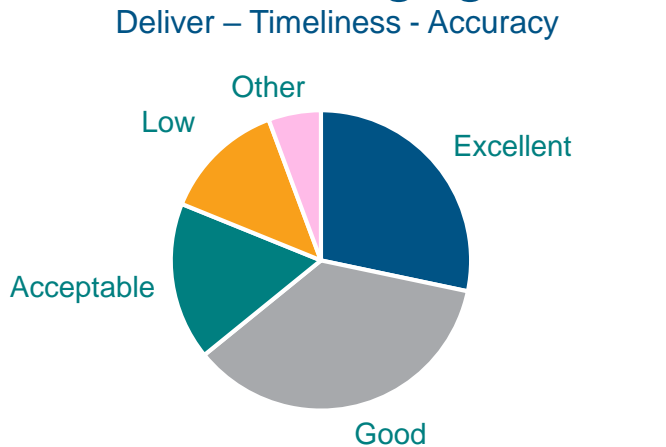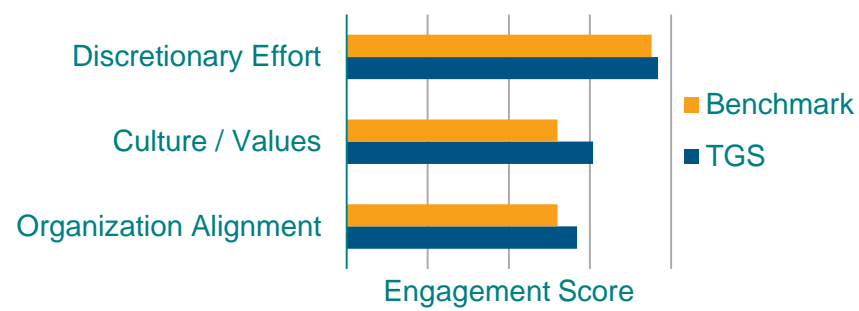
Different cycles – different priorities
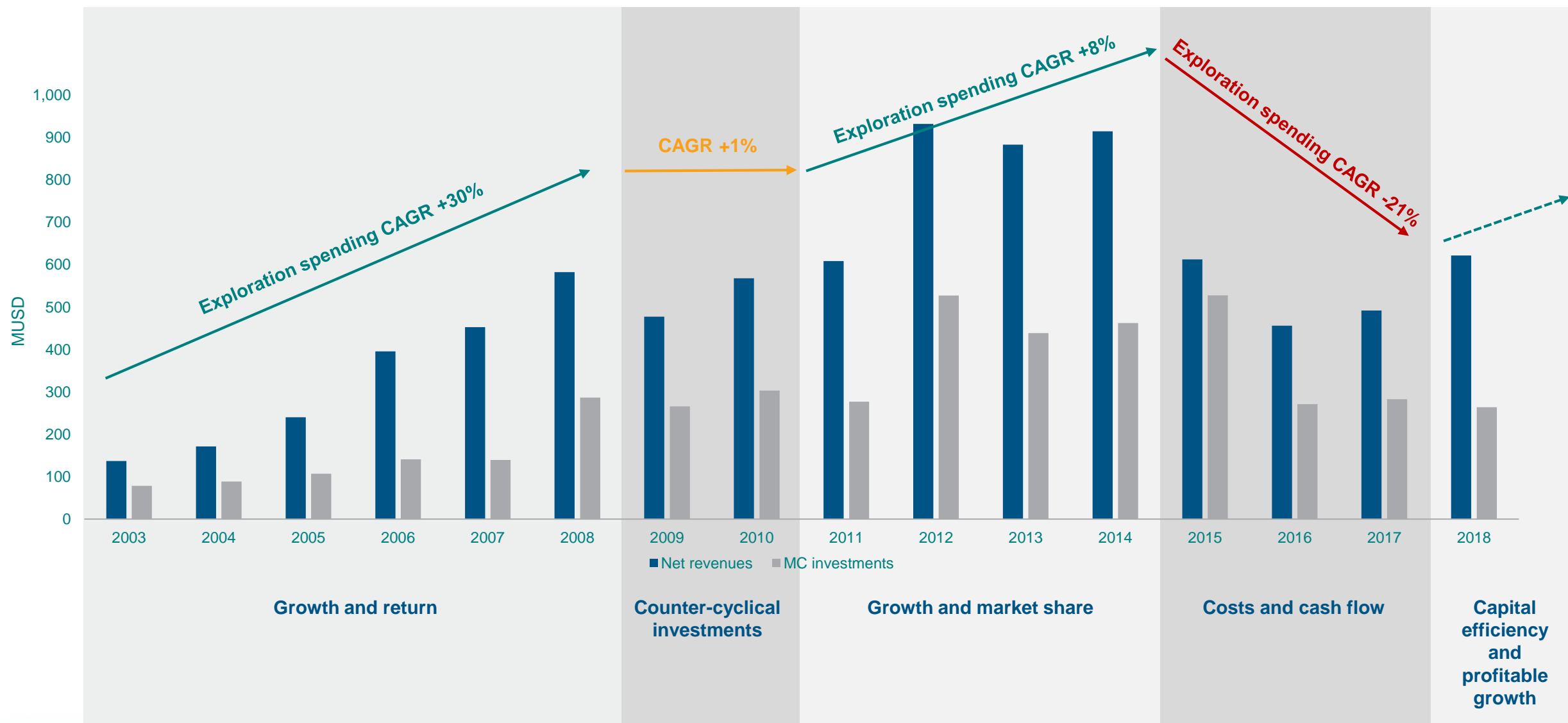
Growth powered by performance and innovation

Entering the right basins → **Ensuring quality and service** → **Applying the right technologies**

TGS
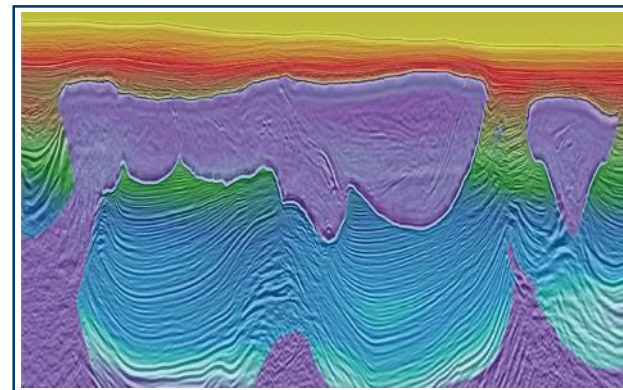
Strategic priorities

Profitable growth

(ROCE)

- ✓ Apply new technologies in mature basins
- ✓ More South Atlantic focus
- ✓ Grow onshore investments

Expand value chain through Data & Analytics

- ✓ Capitalize on Big Data position
- ✓ From data to solution

Imaging quality and reputation

- ✓ R&D
- ✓ Leading position in Onshore and OBN processing
- ✓ Proprietary offering

TGS

1. Profitable growth

Different basins – different priorities

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

Net revenues of the last three years

LA & AME 16%

Other 6%

Europe & NA 59%
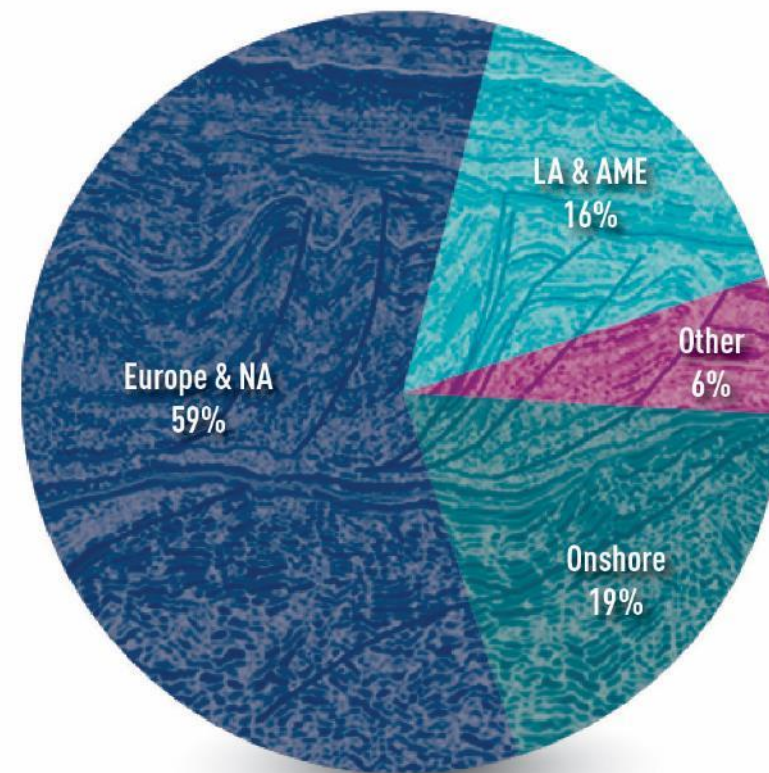
Onshore 19%

- Core basins becoming mature drives need for new technologies
- Increased activity in South Atlantic driven by Brazil
- Onshore activity growing due to increasing geological complexity

TGS

New technologies required to unlock potential in mature basins

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

*"BP's Gulf of Mexico business is key to our strategy of growing production of advantaged high-margin oil. We are building on our world-class position, **upgrading the resources at our fields through technology**, **productivity and exploration success**"*

Bernard Looney, BP, Upstream chief executive

*"Exploring for **resources close to existing infrastructure** is a central part of Equinor's strategy to further develop the Norwegian continental shelf (NCS). We need this kind of discoveries in the years to come"*

Nick Ashton, Equinor, SVP Norway & UK

*"Dover showcases our expertise in discovering new, commercial resources in a heartland helping deliver our deep-water growth priority. By focusing on **near-field exploration opportunities** in the Norphlet, we are adding to our resource base in a prolific basin that will be anchored by the Appomattox development"*

Andy Brown, Shell Upstream Director

*"We are investing to find **profitable barrels around our hubs**, test new plays and generate new potential stand-alone development opportunities"*
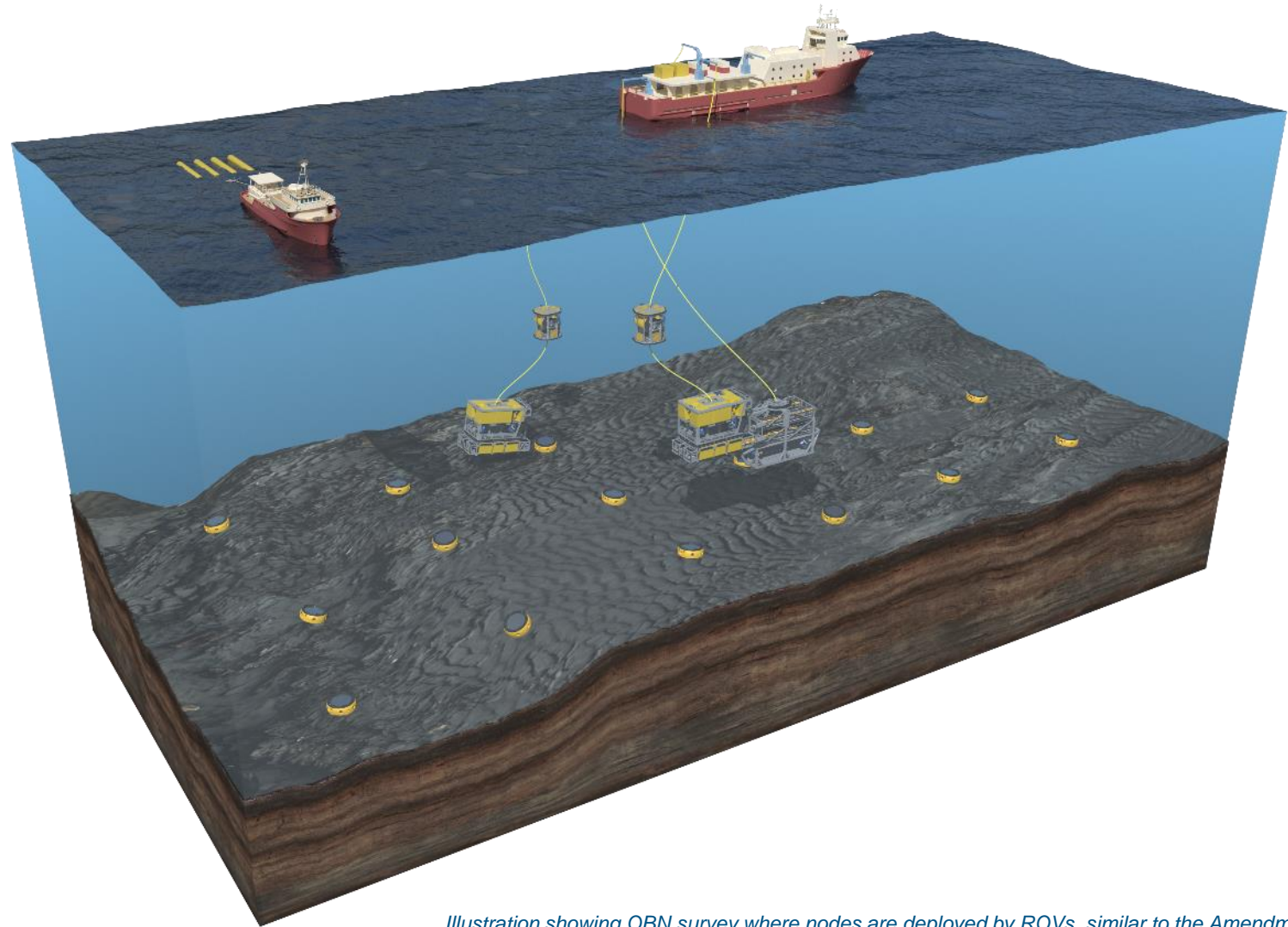
Karl Johnny Hersvik, CEO, Aker BP

Introducing OBN technology in MC market

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

Illustration showing OBN survey where nodes are deployed by ROVs, similar to the Amendment survey
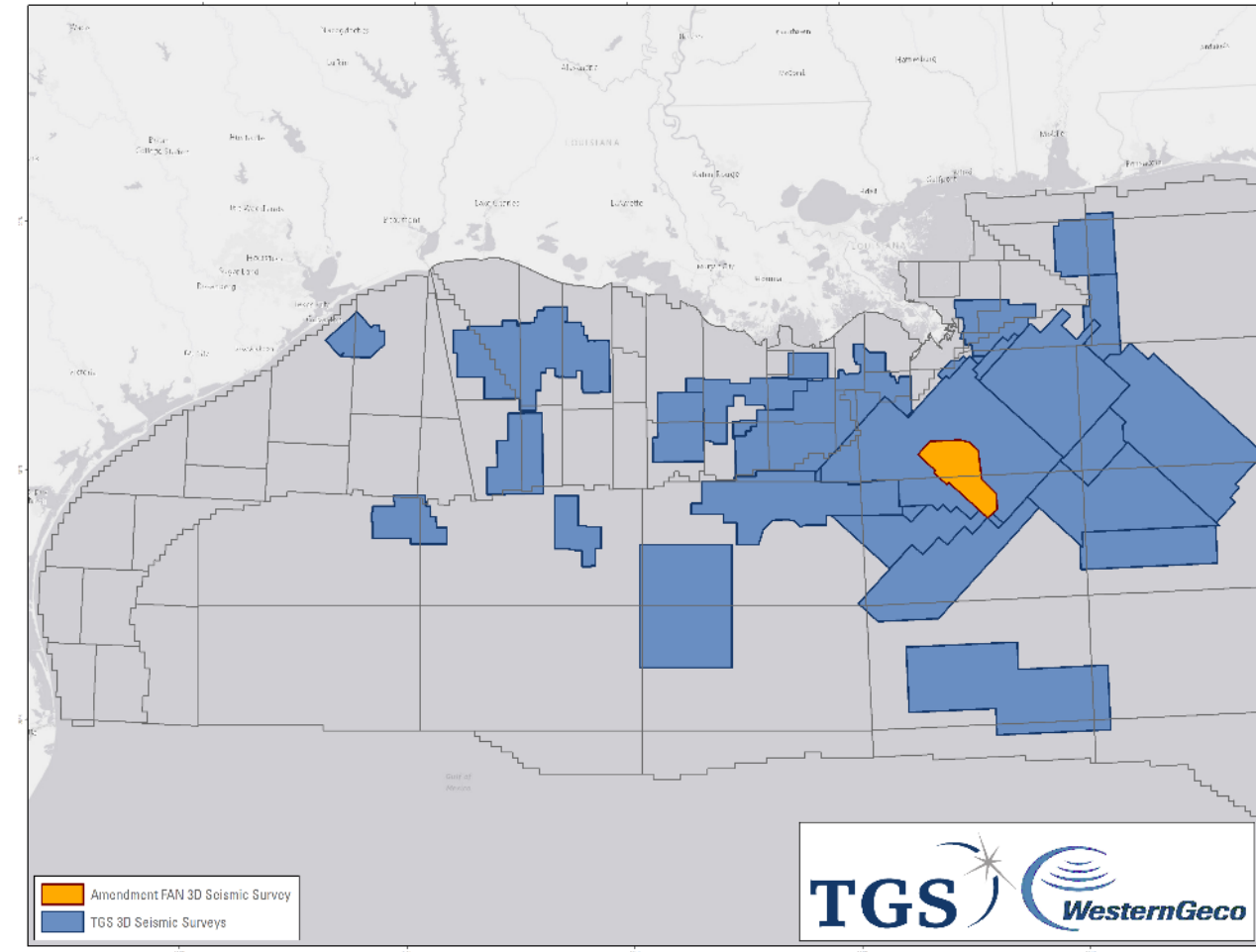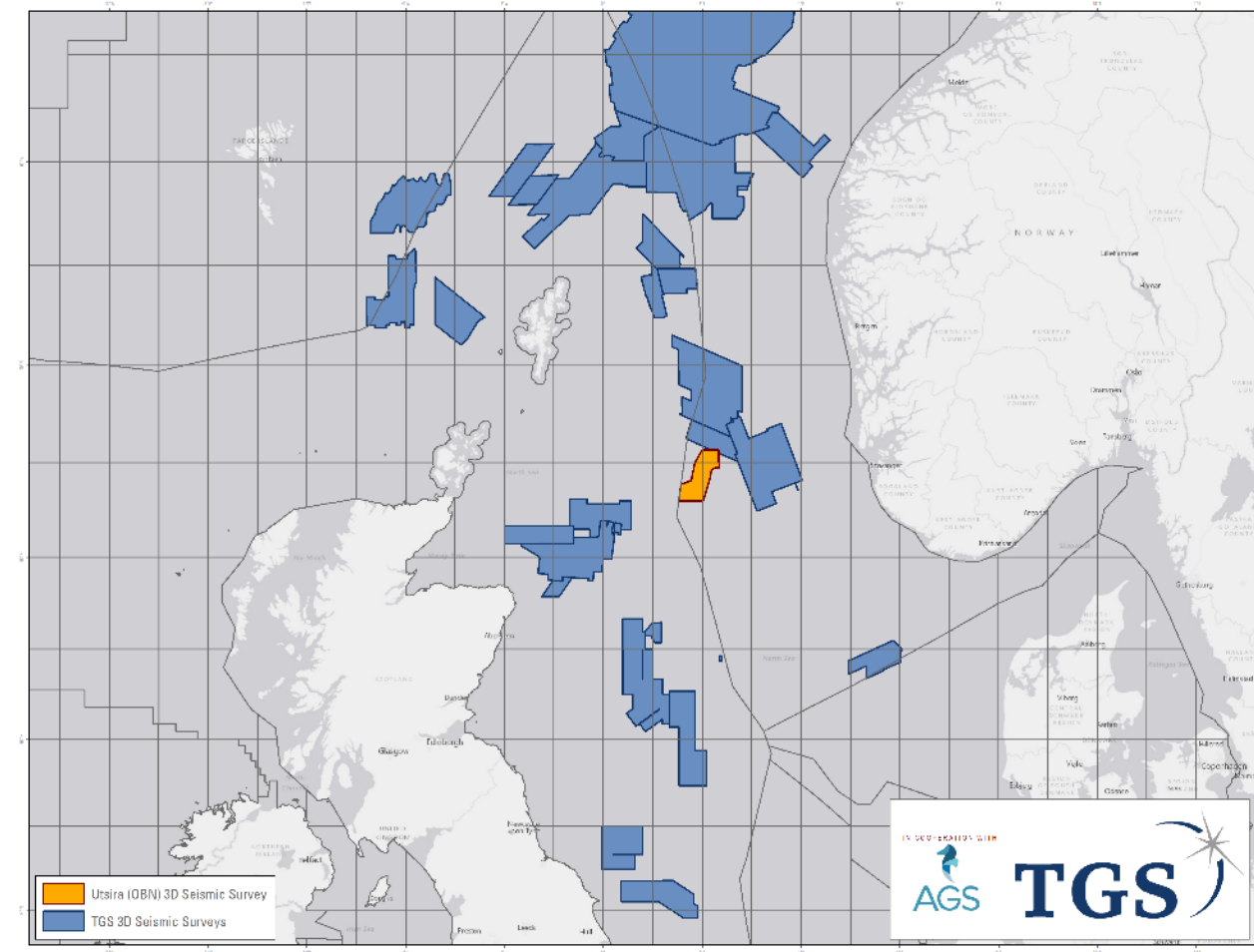*Source: MagseisFairfield*

TGS

Introducing OBN technology in MC market: US GoM

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

- Amendment: >2,350 km² multi-client nodal project in Mississippi Canyon and Atwater Valley*

- Long offsets will drive FWI to produce more accurate salt and thus sub salt images

- Substantial potential for further projects utilizing existing WAZ data in the Central GoM

Amendment FAN 3D Seismic Survey

TGS 3D Seismic Surveys

Collaboration with Western Geco

Introducing OBN technology in MC market: North Sea

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

- Utsira OBN: 1,560 sq.km multi-client node project in the Utsira area in Norway*

- APA 2019 provided record-high interest and multiple licenses in the Utsira area

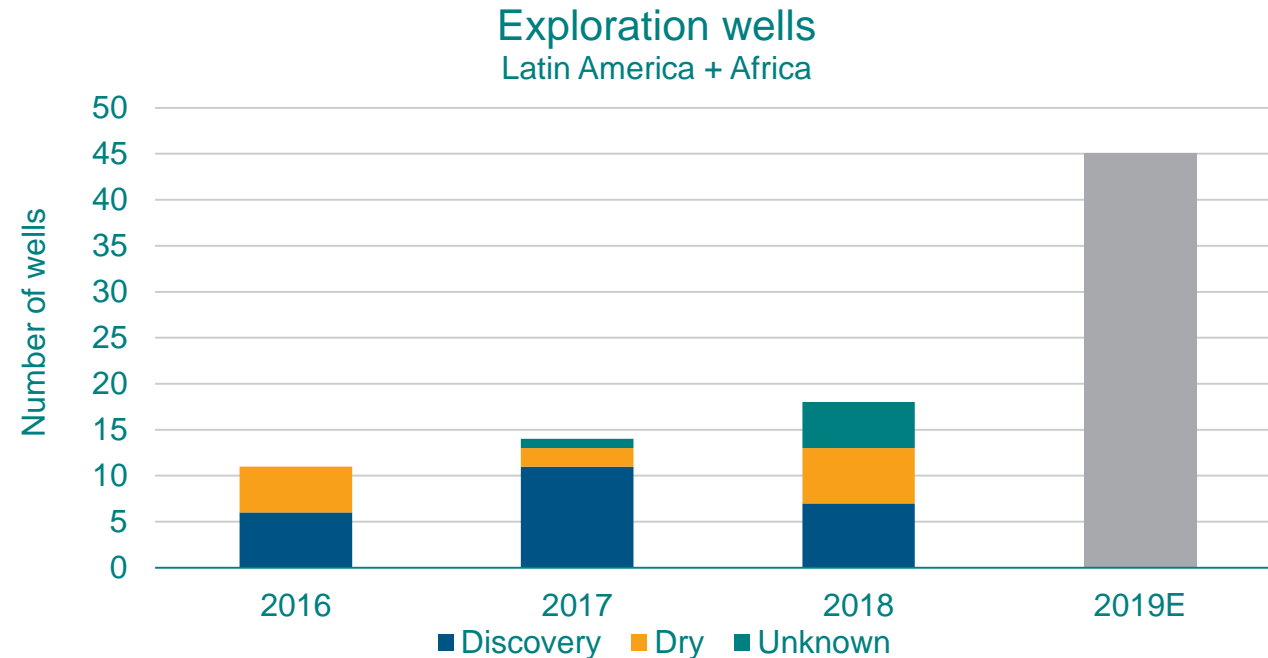- Data spans near field exploration, appraisal and 4D baseline.

Utsira (OBN) 3D Seismic Survey
TGS 3D Seismic Surveys

*Collaboration with Axxis Geophysical Services

Why the South Atlantic?

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

Exploration wells
Latin America + Africa

Source: TGS

- Exploration and appraisal spend in the area increasing

- Demonstrated prospectivity – region accounted for 5 of the top 10 discoveries in 2018. World's largest also in 2014,15, 17.

- Improving licensing round visibility despite continued political uncertainty

TGS' current position

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

Net revenues AME & LA
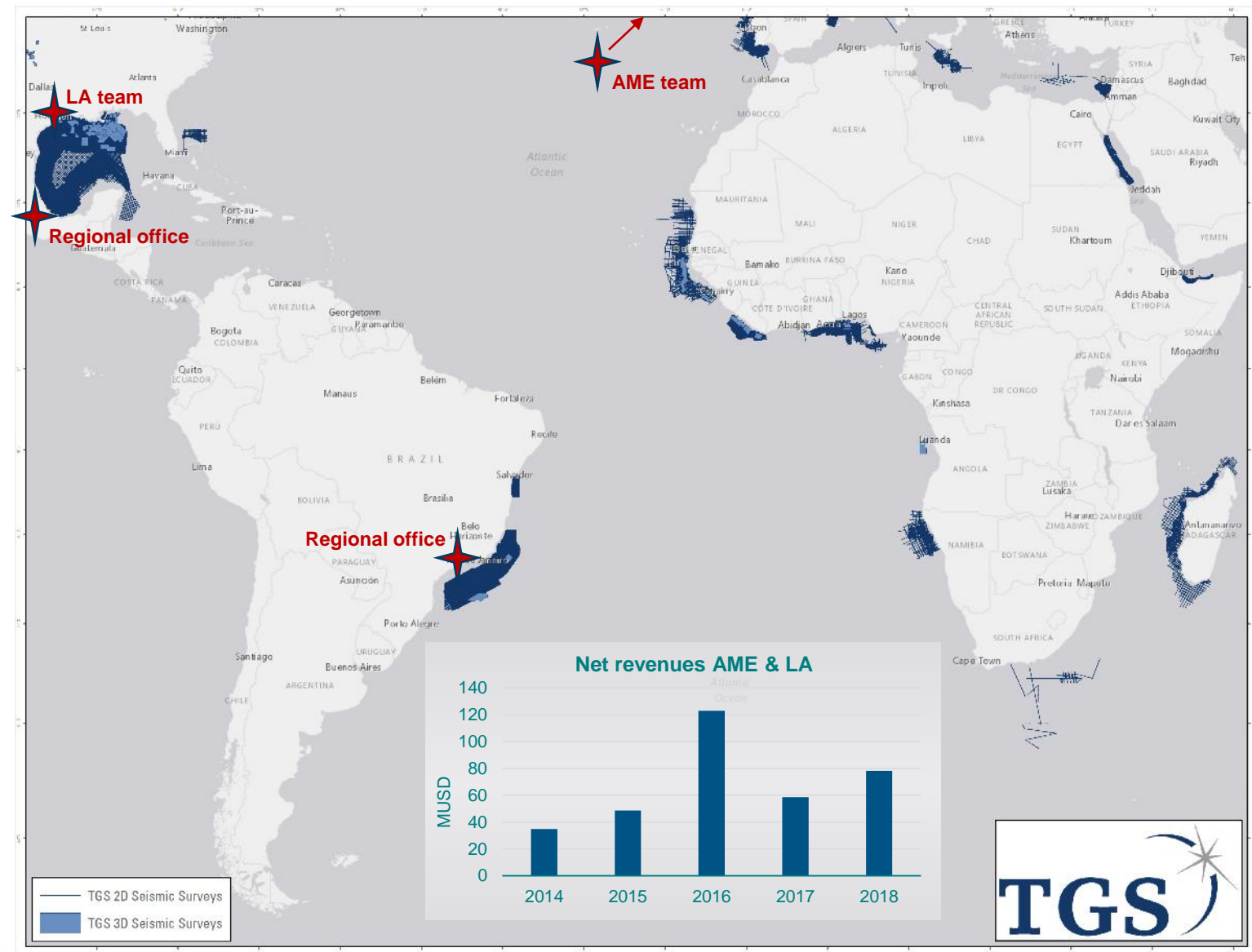
Current project activity

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

- Brazil Multibeam and Sea seep
  - 200,000 km^2 and 400 cores

- Santos Basin 3D*
  - 15,000 km^2
  - Positioned for new license rounds

- MSGBC Multibeam and Sea seep
  - 113,500 km^2 and 230 cores
  - Exciting preliminary data

- Jaan 3D**
  - 11,100 km^2 new data + 17,000 km^2 reprocessed and merged
  - On major discovery trend across 3 countries
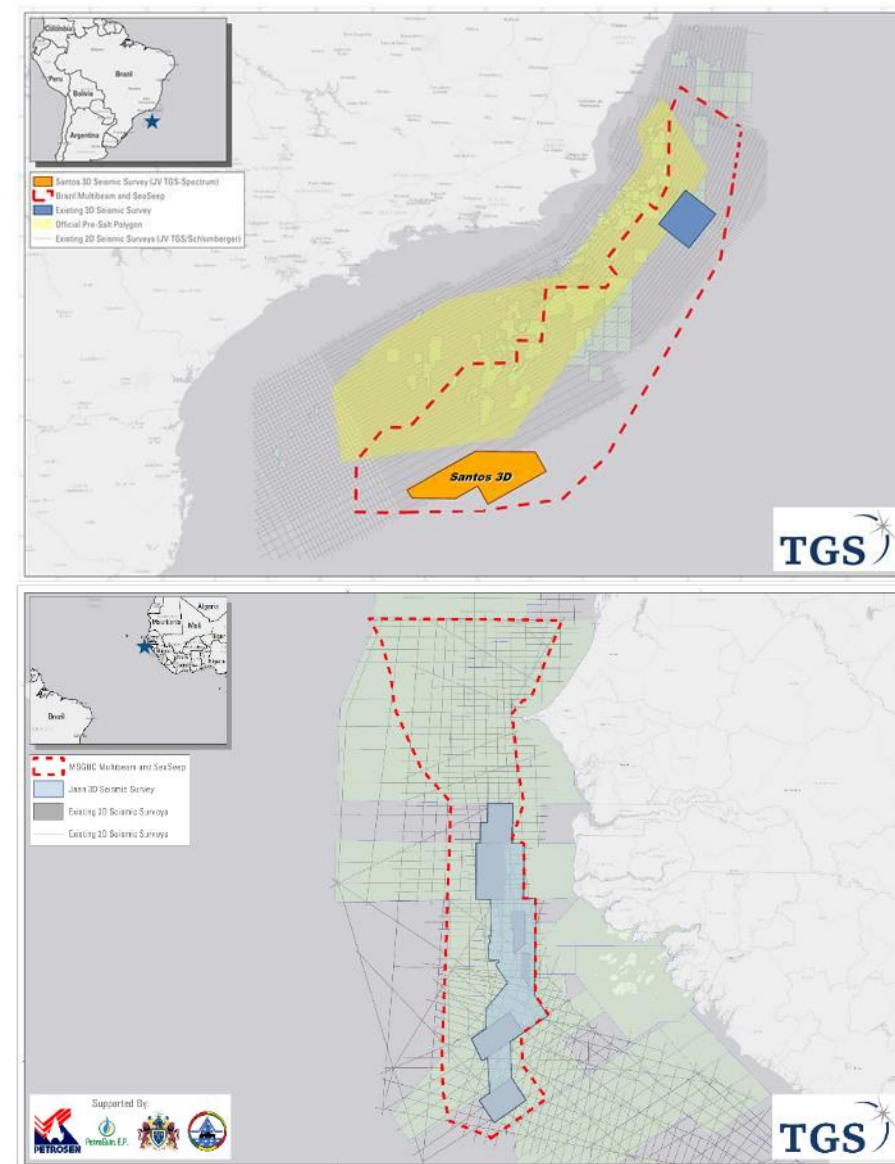
* JV with Spectrum **JV with Geopartners and PGS

Ambition: Establish long-term revenue stream on par with existing TGS core areas

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

- Build organization to meet ambition

- Focus on prolific hydrocarbon basins with selected high potential frontier entries

- Build sustainable project pipeline and library

- Create multi-layered data offerings as basins mature

- Leverage new analytics capabilities

- Build on data management capabilities

TGS

The shale industry has made America the world's top producer of crude oil

New technologies in mature basins

Strengthening position in South Atlantic

**Further growth onshore**

US oil production

Source: EIA
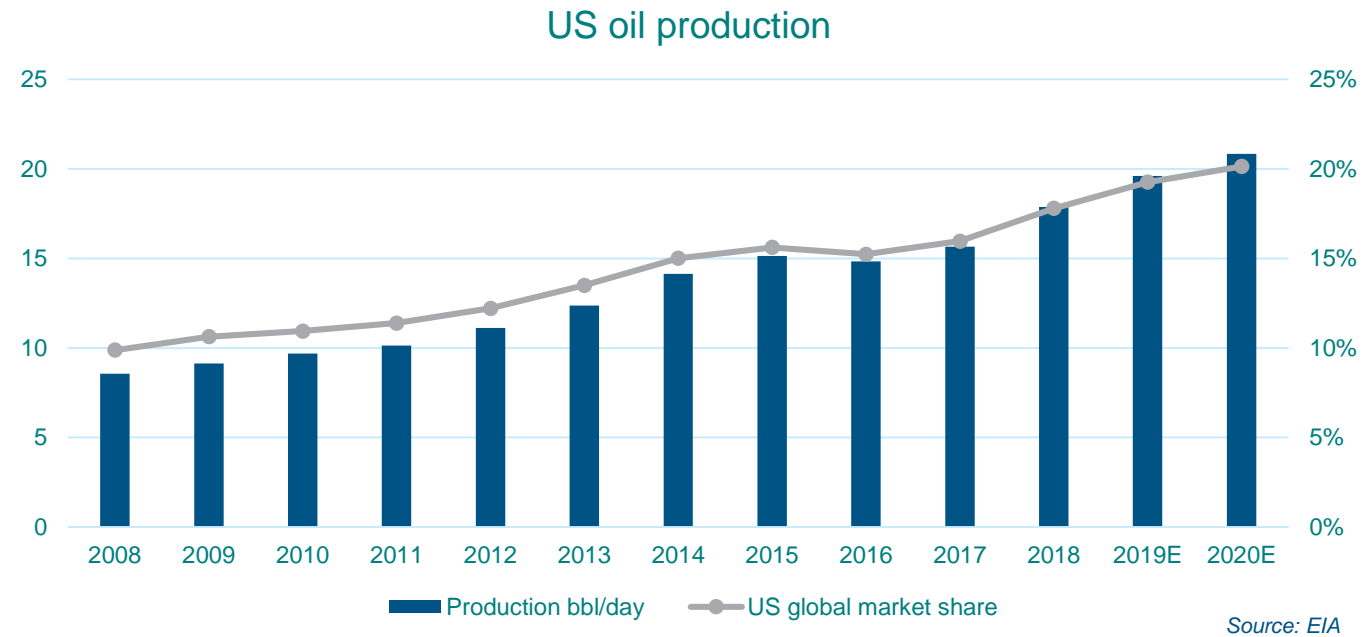
- Texas state production compared to all countries ranks #3 in the world
- Most US shale production is now profitable at less than $50 a barrel
  - As low as $30 in the Permian and SCOOP&STACK
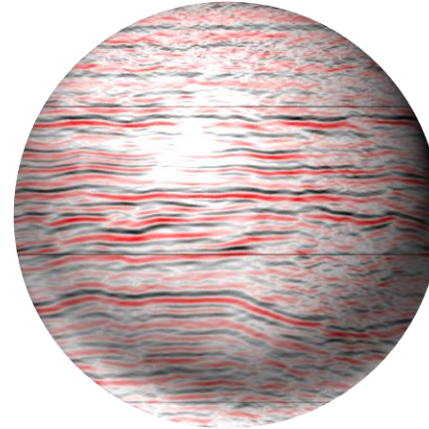
TGS

TGS Onshore growth powered by performance and innovation

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore
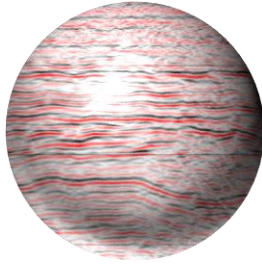
2012:
~12,270 sq. km. 3D
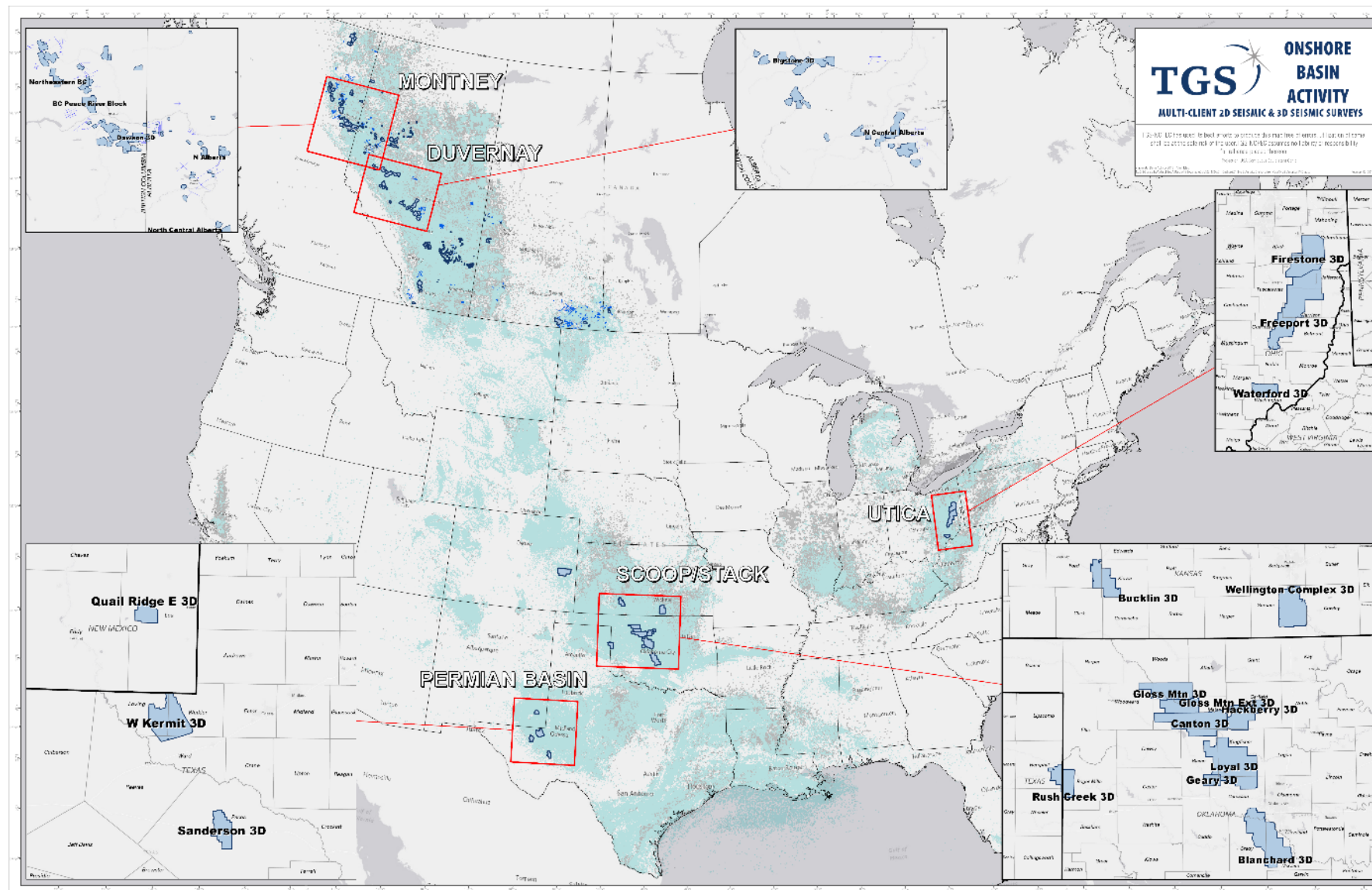
2019:
~34,700 sq. km. 3D

- Significant organic growth since acquisition of Arcis in mid-2012

- Technology uplift and strong returns underscore strategy of focused and selective expansion of onshore footprint
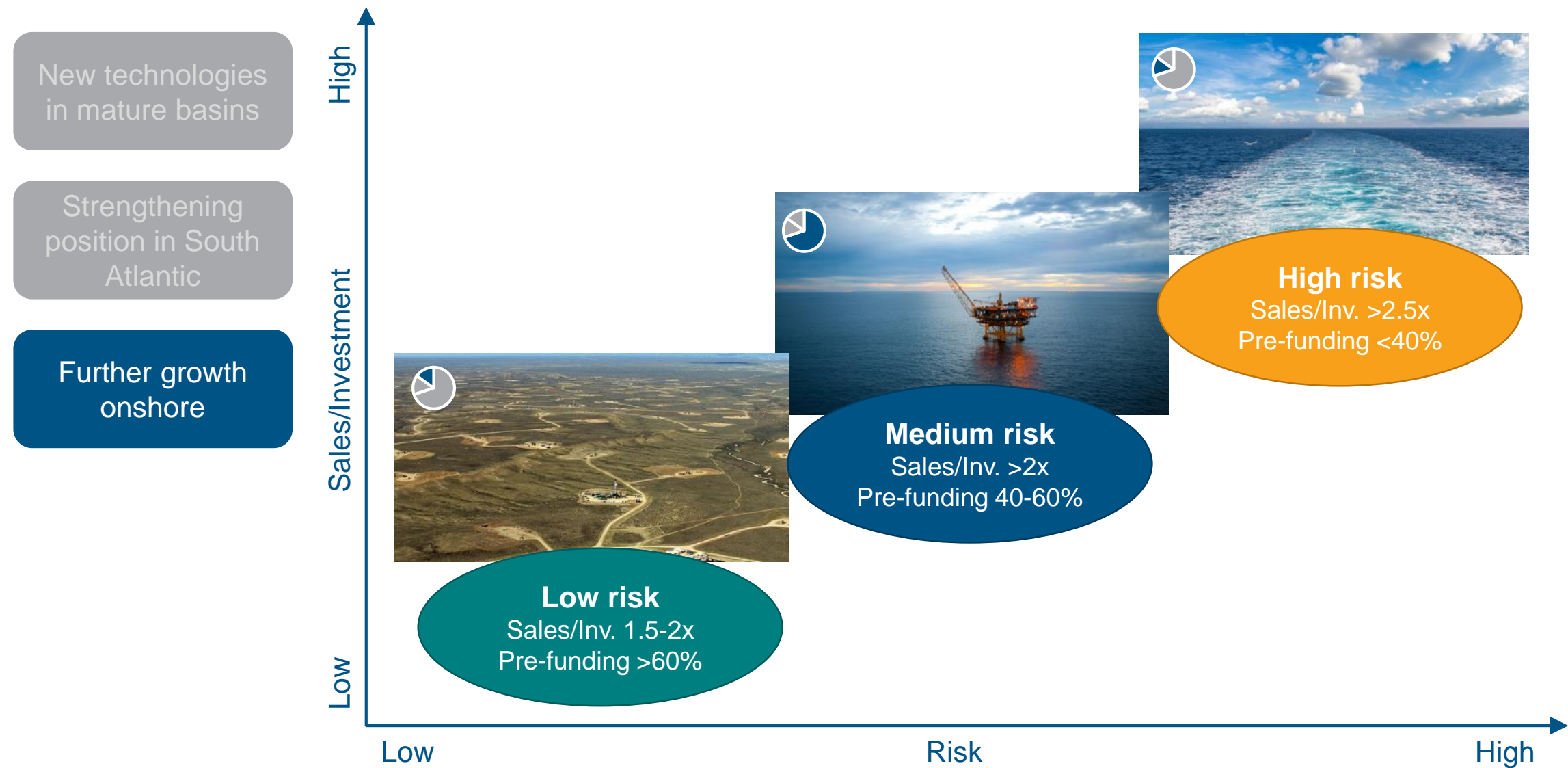
Core positions in premium basins

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

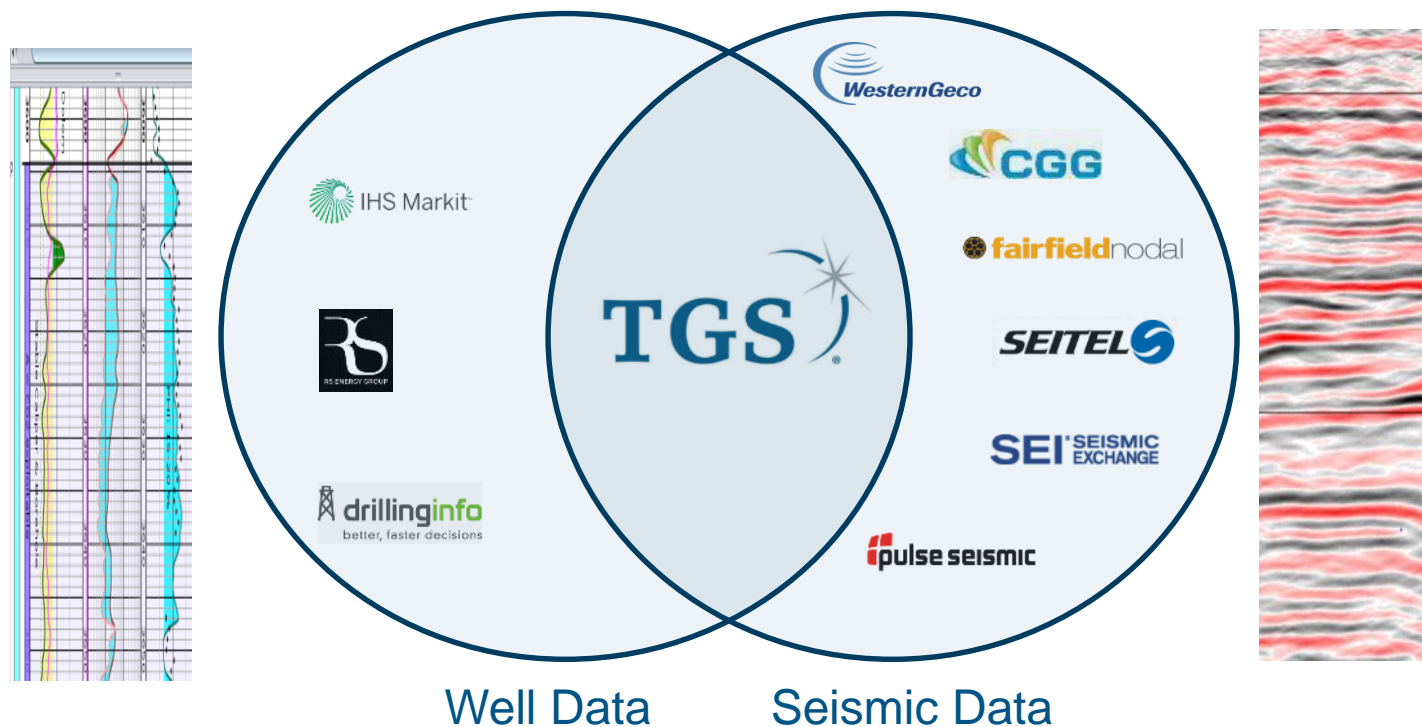# How does Onshore fit within TGS Portfolio?

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

High risk
Sales/Inv. >2.5x
Pre-funding <40%

Medium risk
Sales/Inv. >2x
Pre-funding 40-60%

Low risk
Sales/Inv. 1.5-2x
Pre-funding >60%

High

Low

Sales/Investment

Low

High

Risk

TGS

Unique offering through combination of seismic and well data

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

Well Data   Seismic Data

- TGS is the only data library that contains both subsurface data types
- TGS Well Log Data is the most accurate and complete
- TGS seismic data is modern and fit for purpose

Importance of seismic for Unconventional resources is increasing

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

*"Initial stages of Unconventional revolution were driven by leaps in drilling and completions technology. Next stages will be driven by **improving our understanding of the behavior of these rocks and fluids and by improving our ability to predict them**"*

David Hager, Devon, CEO

*"Our Basin-Leading Subsurface Capability such as Integrated workflows with vast Permian subsurface data drives customized development. **Integrated subsurface characterization optimizes development for value**"*

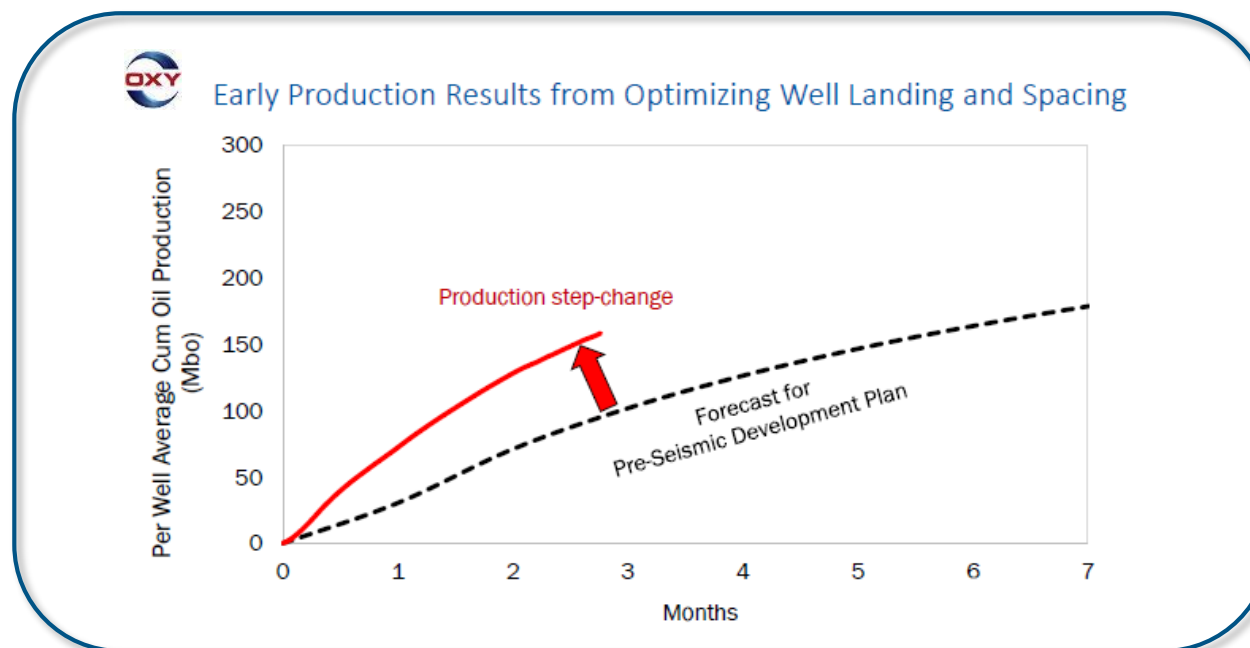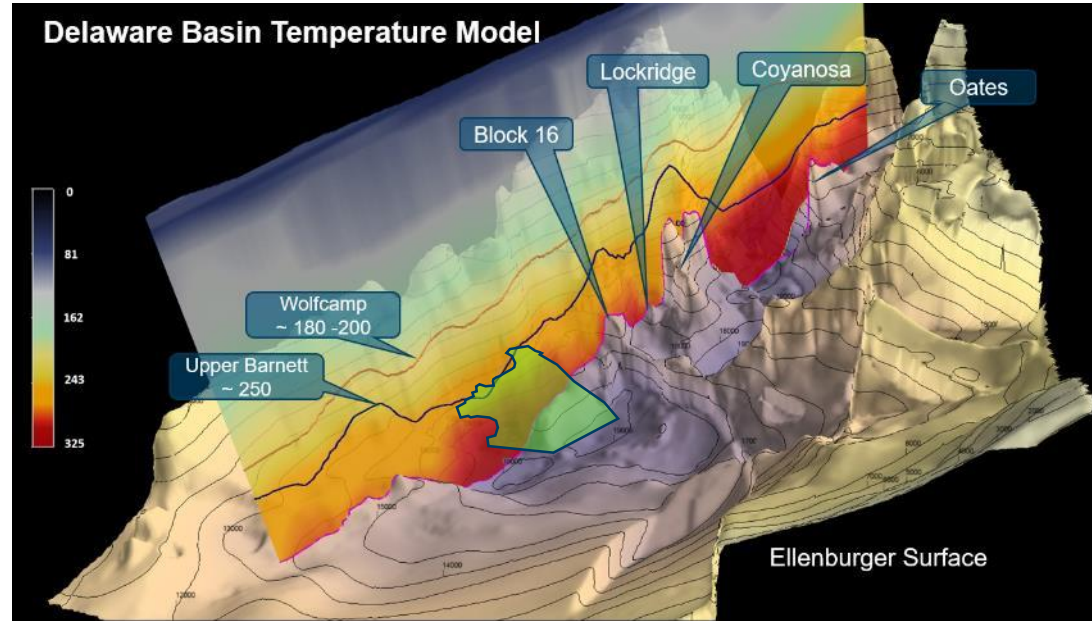*Occidental corporate presentation, 7 January 2019*

Chart from Occidental corporate presentation 7 January 2019

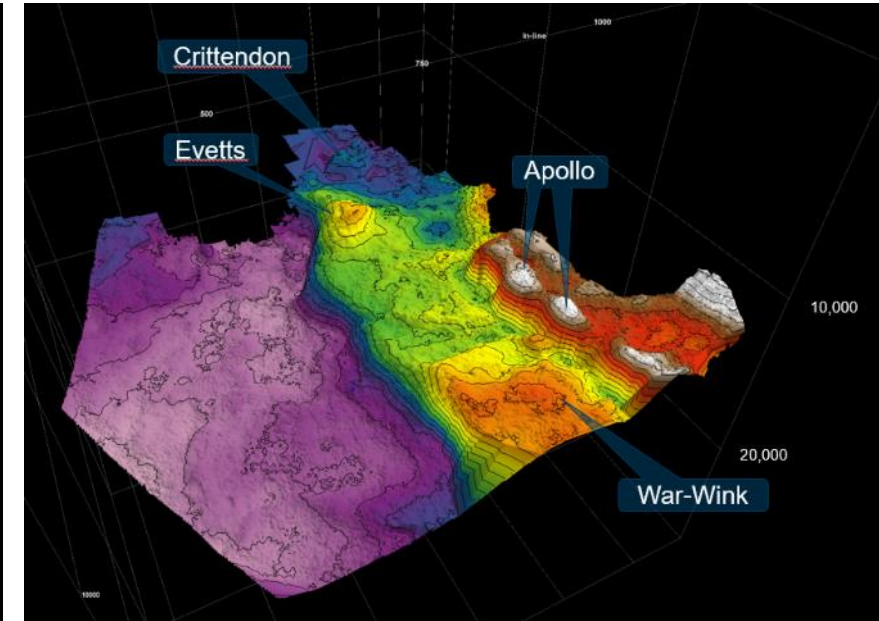# Subsurface data reveals complexity of the Delaware Basin

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

Regional Structure map overlaid with Basin Temperature Model developed from well data. An indicator of which formations are in the oil window.

Detailed structure map using seismic data and well logs.

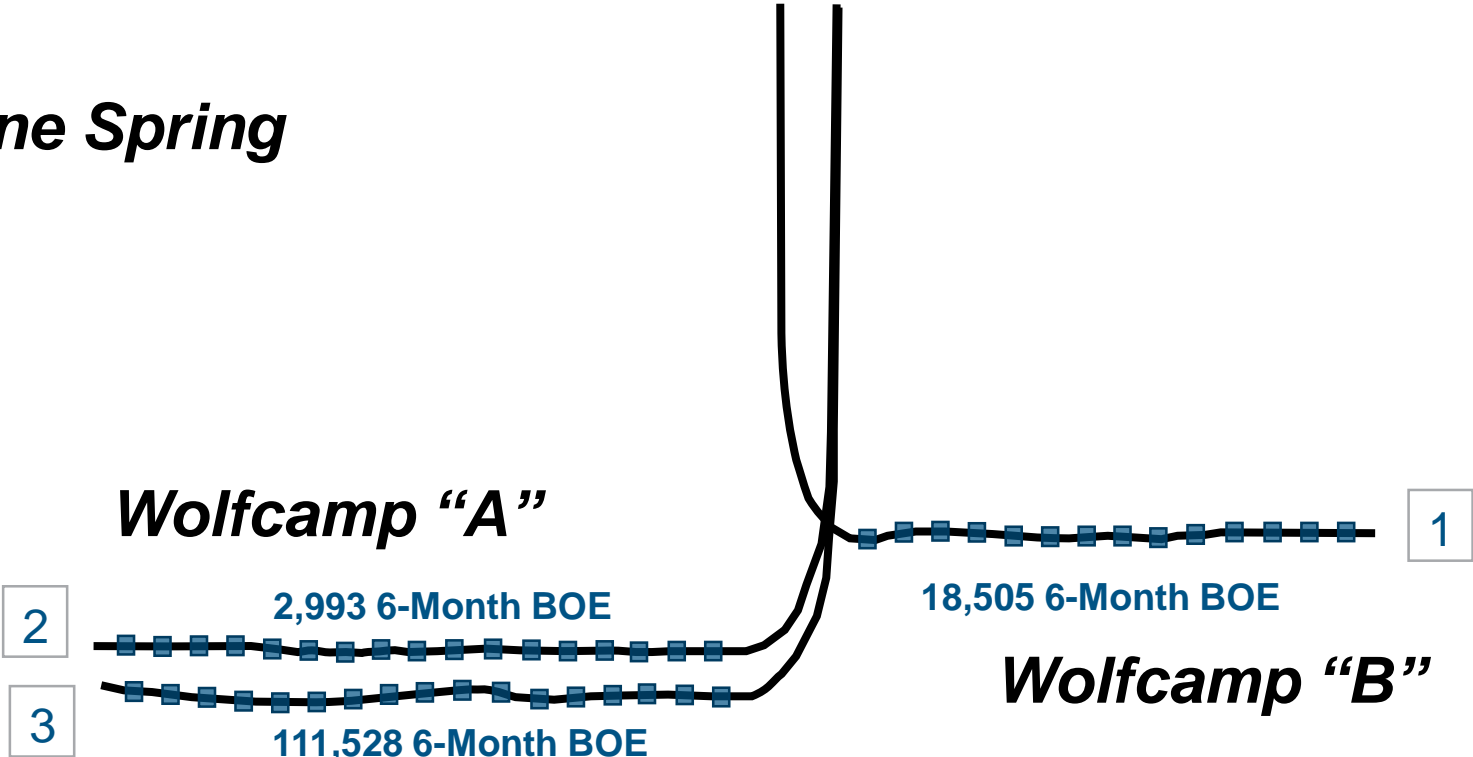**Subsurface understanding key to increasing productivity**

TGS

Understanding the reservoir and well-performance

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

Bone Spring

Wolfcamp "A"

2

2,993 6-Month BOE

3

111,528 6-Month BOE

1

18,505 6-Month BOE

Wolfcamp "B"

Three horizontal wells drilled into the Wolfcamp (Permian) without modern seismic with variable results
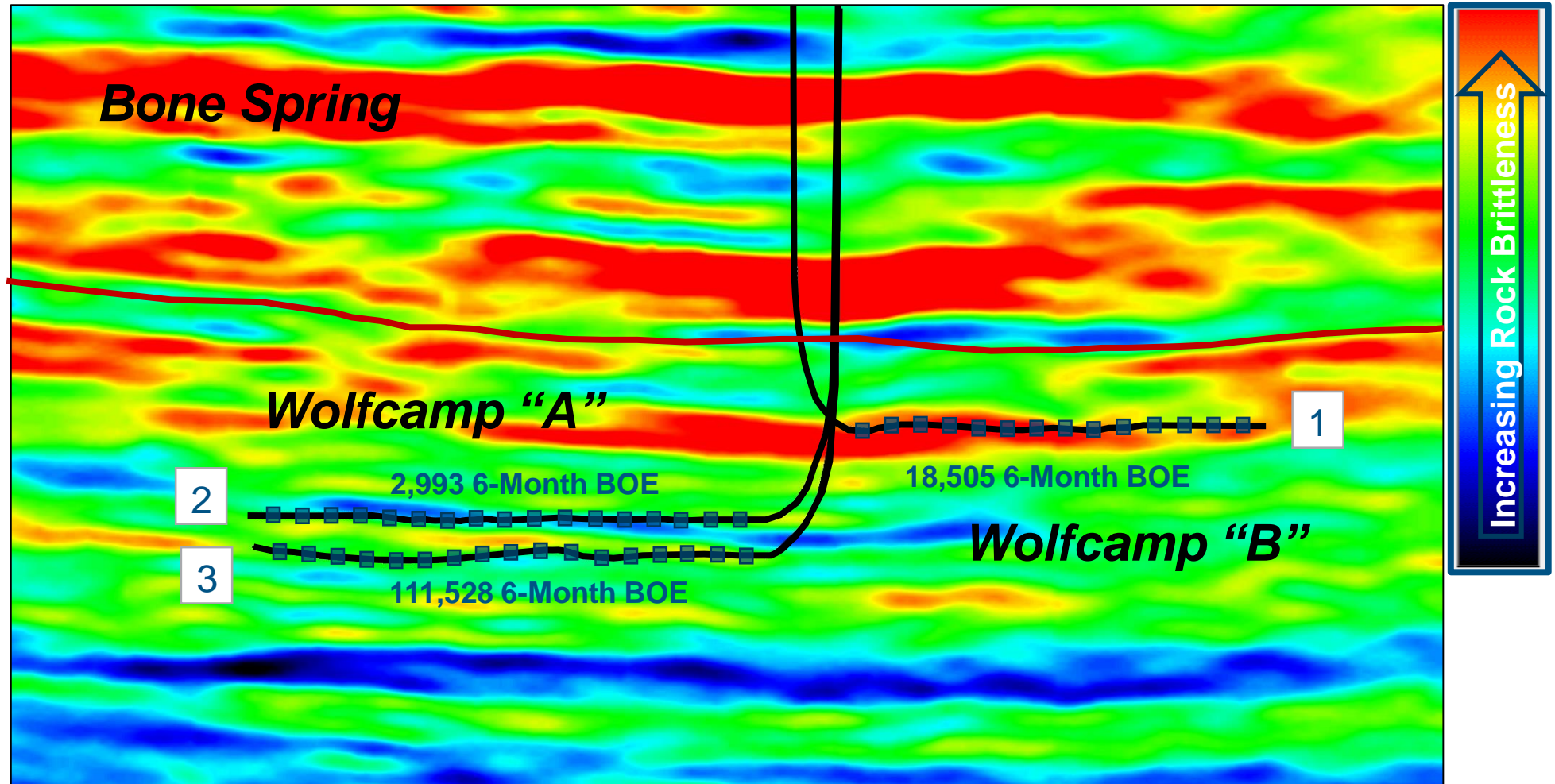
TGS

Understanding the reservoir and well-performance

Seismic illuminates the complexities and heterogeneities of Wolfcamp formation (Permian Basin), helps to maximize the value

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

Bone Spring

Wolfcamp "A"

1

18,505 6-Month BOE

2

2,993 6-Month BOE

Wolfcamp "B"

3

111,528 6-Month BOE

Increasing Rock Brittleness

Consider how the wells would have been drilled with seismic - extreme brittleness (high or low) suggests bad wells

TGS

Summary

New technologies in mature basins

Strengthening position in South Atlantic

Further growth onshore

- Surging US shale production

- TGS onshore portfolio has exceeded expectations

- Importance of seismic is increasing

- Well positioned in key basins with plans to grow

- Large volumes of subsurface data, wells and seismic

- Opportunity to create further value through Data Analytics

2. Expanding value chain through Data & Analytics

Digital transformation

Data is changing the oil & gas industry

Combining skills, data and computer power

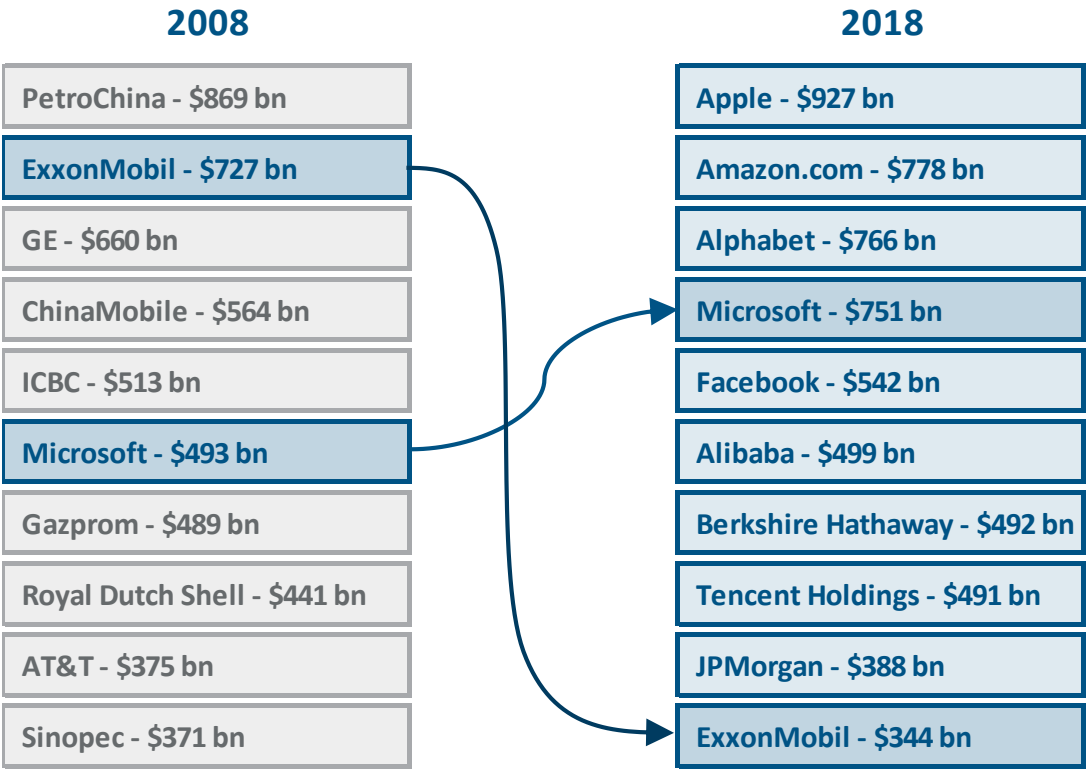Enhancing client offering further

"Data is the new oil"

Data is changing the oil & gas industry

Combining skills, data and computer power

Enhancing client offering further

- Digitization leading to rapid changes in society and business

- Progression within machine learning and artificial intelligence (AI) has made data the world's most valuable resource

- Business success defined by ability to collect, refine and use data

10 year challenge: World's largest corporations by Market Cap

2008	2018
PetroChina - $869 bn	Apple - $927 bn
ExxonMobil - $727 bn	Amazon.com - $778 bn
GE - $660 bn	Alphabet - $766 bn
ChinaMobile - $564 bn	Microsoft - $751 bn
ICBC - $513 bn	Facebook - $542 bn
Microsoft - $493 bn	Alibaba - $499 bn
Gazprom - $489 bn	Berkshire Hathaway - $492 bn
Royal Dutch Shell - $441 bn	Tencent Holdings - $491 bn
AT&T - $375 bn	JPMorgan - $388 bn
Sinopec - $371 bn	ExxonMobil - $344 bn

Source: www.statista.com

TGS

Data is changing the oil & gas industry

Data is changing the oil & gas industry
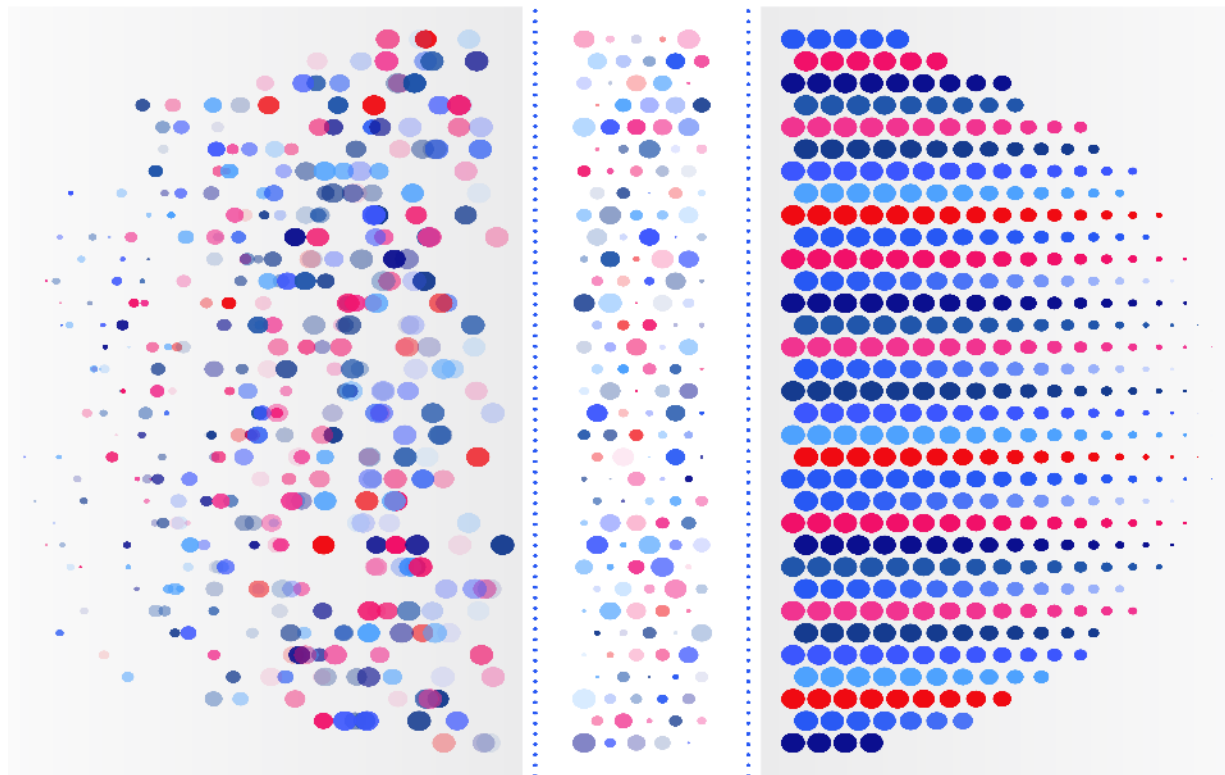
Combining skills, data and computer power

Enhancing client offering further

"One of the things we see at Google Cloud is that it's not the company with the best algorithm that's going to win — it's the company with the most data"

Darryl Willis, Google Cloud, VP oil, gas, and energy sector

"And just to give you a sense of the scale: What we can now do in 1 day used to take 7 years to do. That's the processing of all this information"

Doug Suttles, Encana, President and CEO

"I have terabytes and terabytes of seismic data, and I might use 5% of that."

Al Walker, Anadarko Petroleum, CEO

TGS

TGS has the skills, the data and the power

Data is changing the oil & gas industry

Combining skills, data and computer power

Enhancing client offering further

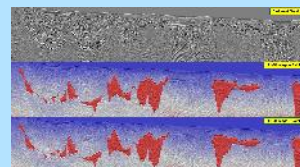**Among the world's largest data centers**
- *25 PetaFlops*

Algorithm

AI

Compute

Data

Strong geoscience knowledge
- *Data Scientists with Geoscience background*

Vast data library
- *708,210 km^2 3D data*
- *3,192,225 km 2D data*
- *~10M digital well logs*
- *GeoChem data*
- *Gravity and Magnetic data*
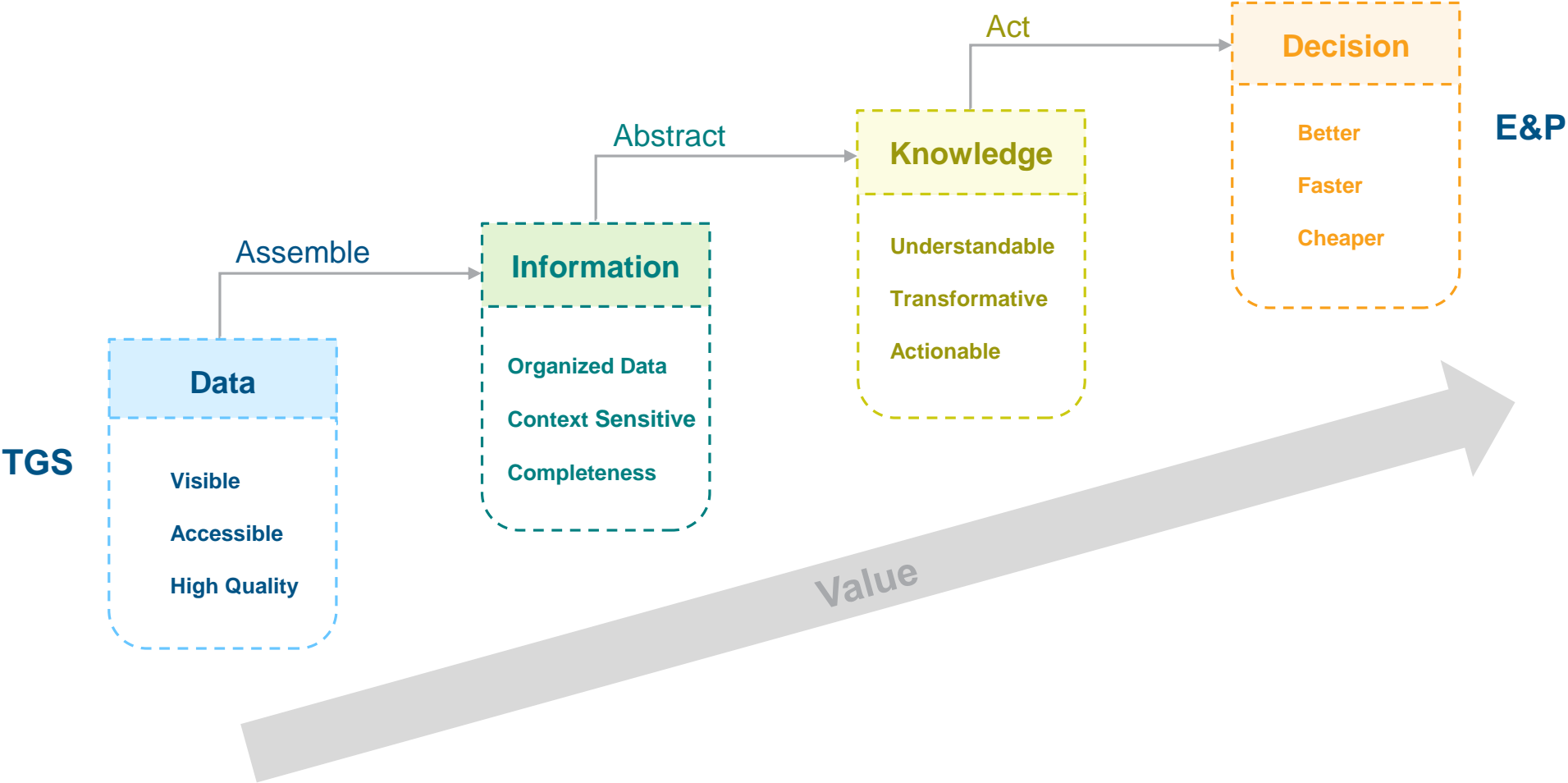- *Production and Completion*

TGS
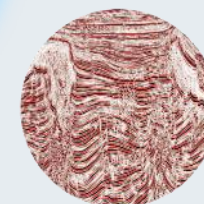
Enabling the E&P digital transformation

Data is changing the oil & gas industry

Combining skills, data and computer power
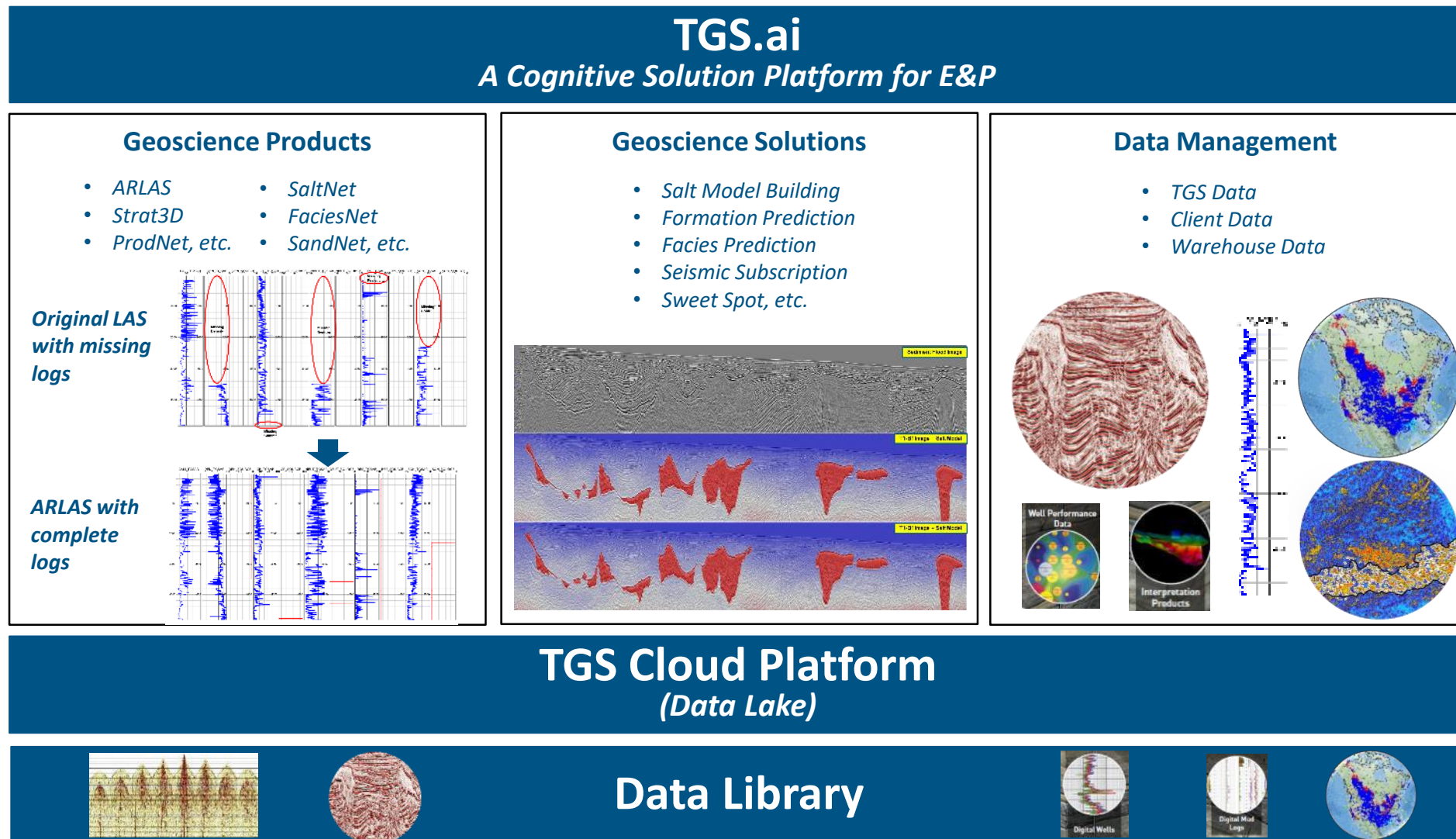
Enhancing client offering further

TGS

E&P

Act

Decision

Better

Faster

Cheaper

Abstract

Knowledge

Understandable

Transformative

Actionable

Assemble

Information

Organized Data

Context Sensitive

Completeness

Data

Visible

Accessible

High Quality

Value

TGS

TGS's digital offering

Data is changing the oil & gas industry

Combining skills, data and computer power

Enhancing client offering further

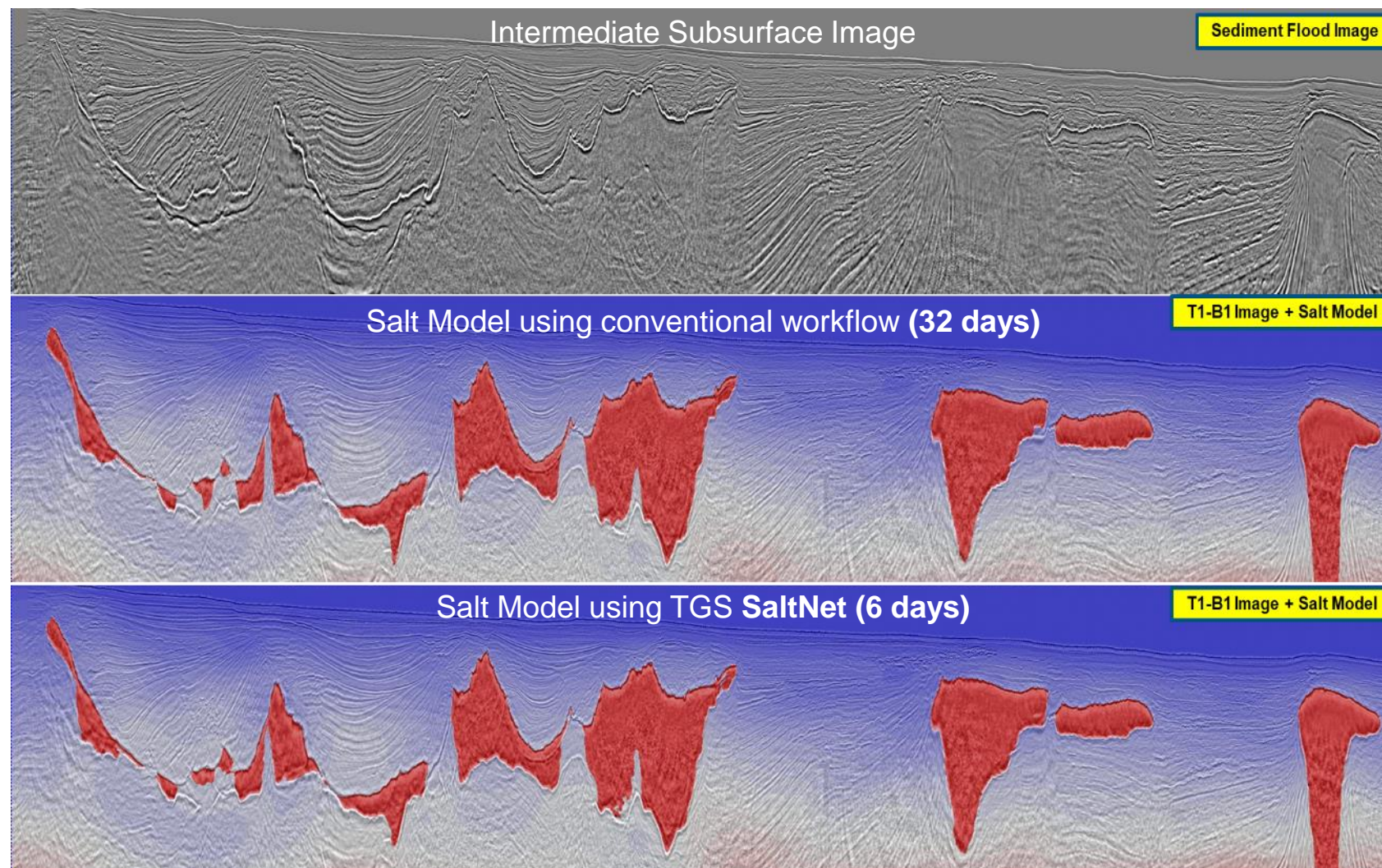## TGS.ai
A Cognitive Solution Platform for E&P

Geoscience Products

- ARLAS
- Strat3D
- ProdNet, etc.
- SaltNet
- FaciesNet
- SandNet, etc.

Original LAS with missing logs

ARLAS with complete logs

Geoscience Solutions

- Salt Model Building
- Formation Prediction
- Facies Prediction
- Seismic Subscription
- Sweet Spot, etc.

Data Management

- TGS Data
- Client Data
- Warehouse Data

TGS Cloud Platform
(Data Lake)

Data Library

TGS

Geoscience product example: Automated Salt Model (SaltNet)

Data is changing the oil & gas industry

Combining skills, data and computer power

Enhancing client offering further

Intermediate Subsurface Image — Sediment Flood Image

Salt Model using conventional workflow **(32 days)** — T1-B1 Image + Salt Model

Salt Model using TGS **SaltNet (6 days)** — T1-B1 Image + Salt Model

TGS

Geoscience product example: Automated Salt Model (SaltNet)

Data is changing the oil & gas industry

Combining skills, data and computer power

Enhancing client offering further

Summary and way forward

Data is changing the oil & gas industry

Combining skills, data and computer power

Enhancing client offering further

- Accomplishment
  - Finished Data Lake
  - Commercial AI Products (ARLAS, Salt Model Building)
  - Data Management as Service

- What's Next
  - Progress TGS AI Platform
  - Expand the Geoscience Services Offering
  - Further Collaborate with E&P Companies

TGS

3. Imaging the future

Imaging the future

Growing demand for Imaging Technology

TGS has driven technology evolution

Strengthen reputation through technology leadership
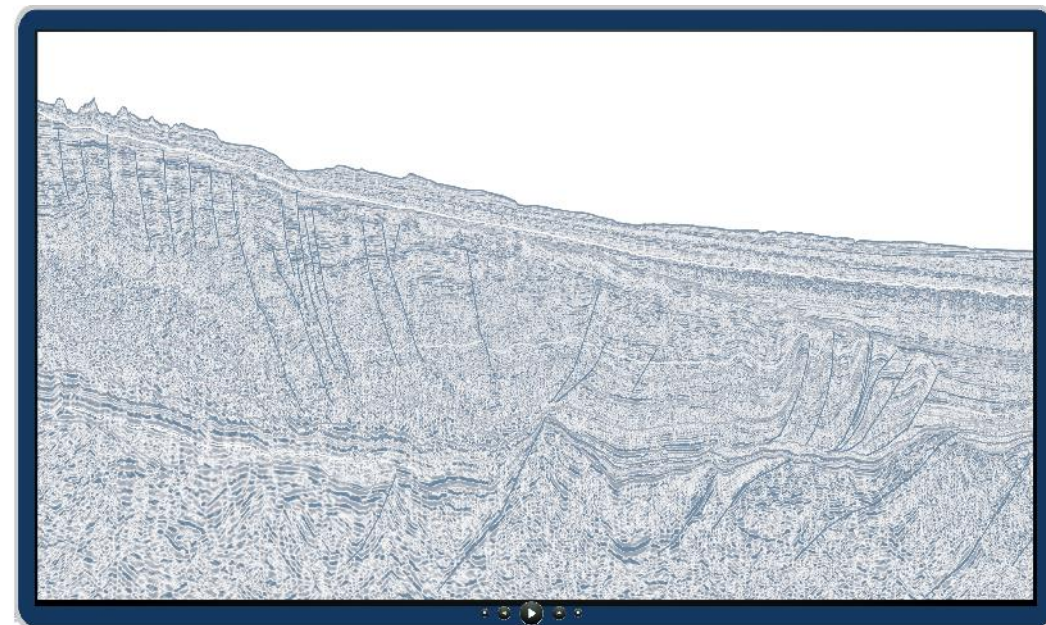
Mature basins: new technology to improve production and reduce (increasingly difficult) exploration risk

Growing demand for Imaging Technology

TGS has driven technology evolution
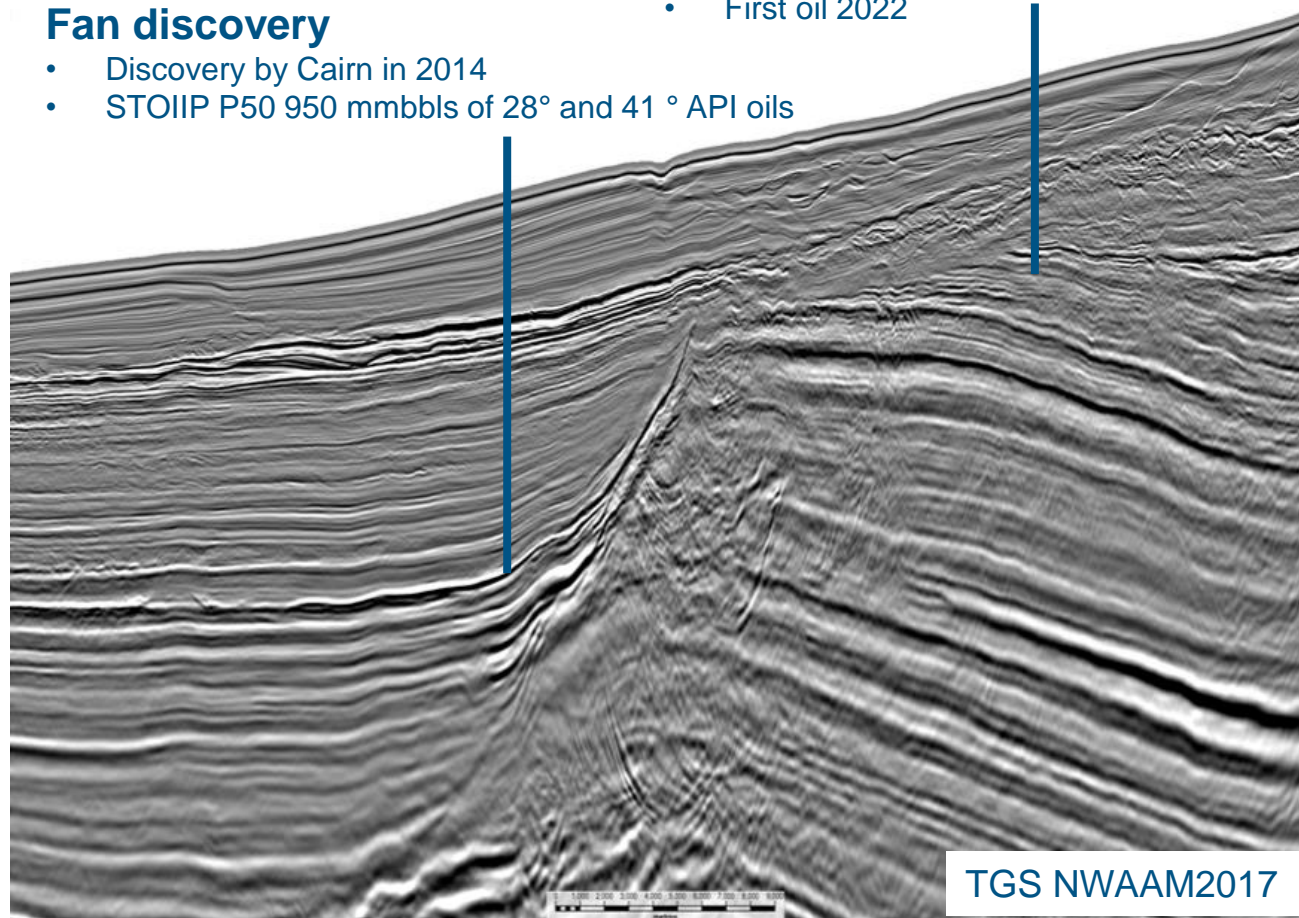
Strengthen reputation through tech' leadership

BP Thunder Horse
"Recent BP breakthrough in seismic imaging identifies 1 billion barrels of additional oil in place at Thunder Horse field."

BP plans for significant growth in deepwater Gulf of Mexico

Release date: January 8, 2019

TGS Fusion M-WAZ Data

- Full Azimuth
- Full waveform inversion
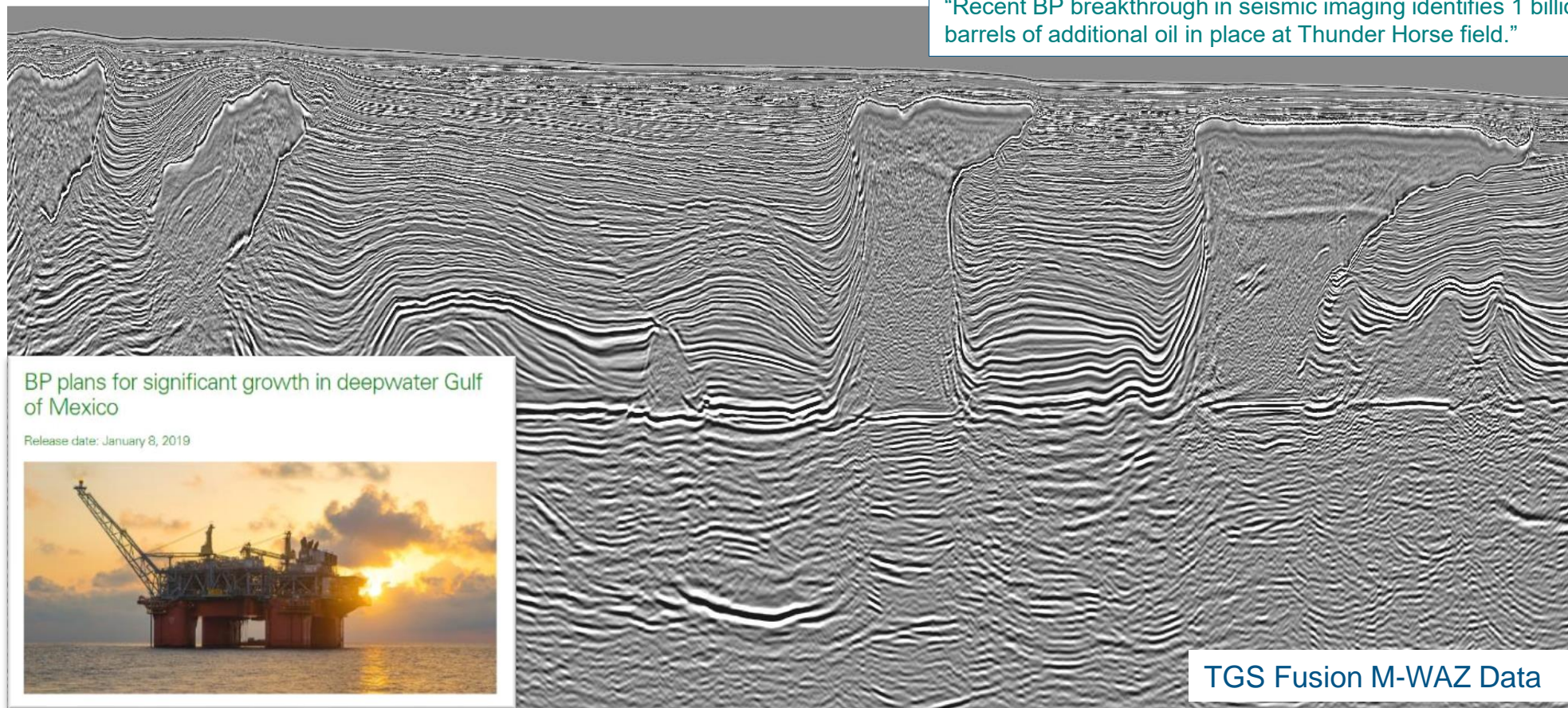
Onshore basins: Well-tie imaging and fracture detection to help horizontal drilling shale oil & gas production

Growing demand for Imaging Technology

TGS has driven technology evolution

Strengthen reputation through tech' leadership

- Pre-stack Depth Imaging
- Reservoir Attribute Inversion

TGS Onshore Kermit 3D
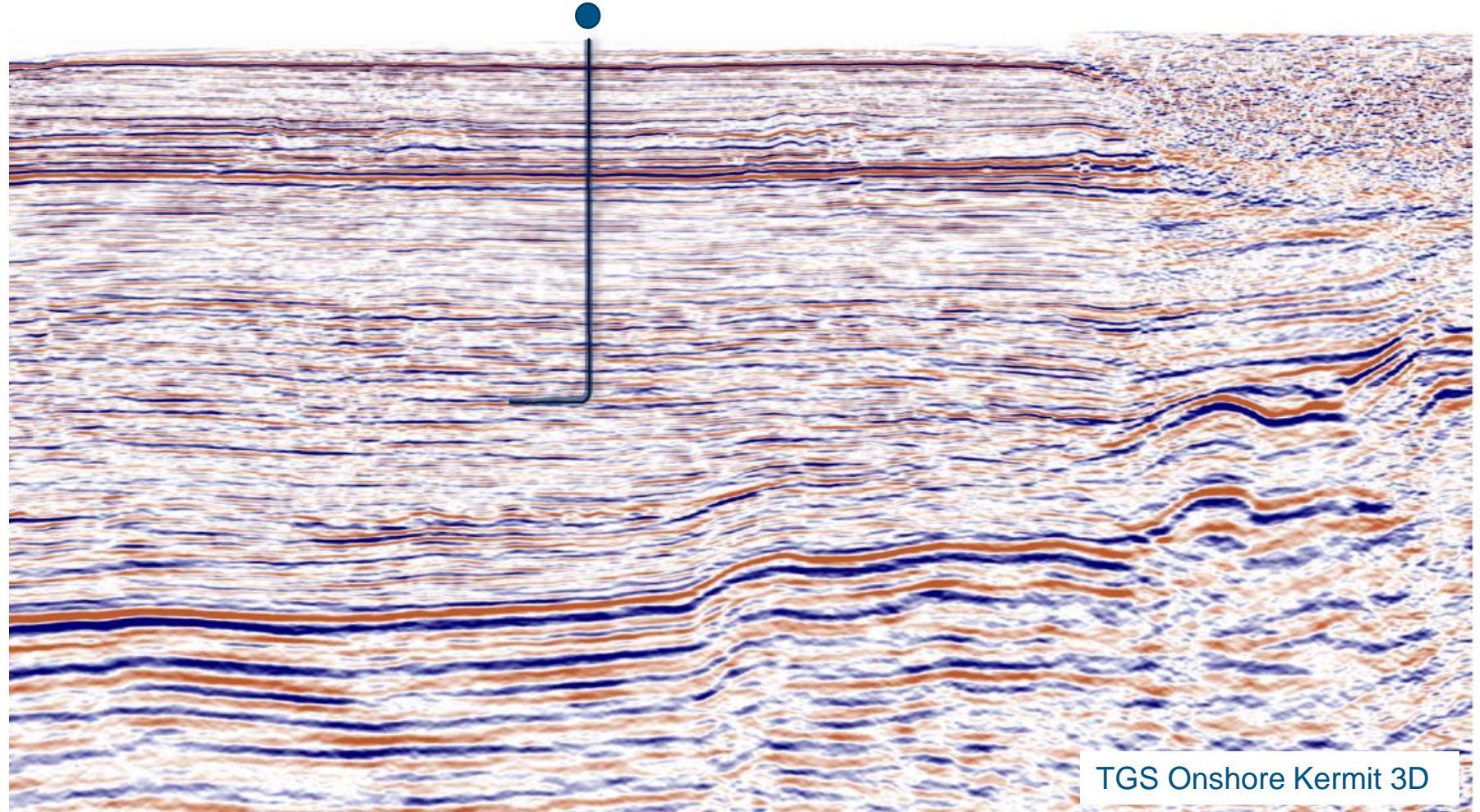
Permian Wolfcamp Horizontal Producer (Shell) – 3D Onshore Pre-stack Depth Imaging
Cumulative 200mboe since 03/2016

TGS

Frontier basins: matured technology to improve success of frontier area exploration

Growing demand for Imaging Technology

TGS has driven technology evolution

Strengthen reputation through tech' leadership

SNE Field - *(largest global discovery of 2014)*
- Discovered by Cairn, 2014
- Resources of 641 mmbbls of 32° API oil.
- First oil 2022

Fan discovery
- Discovery by Cairn in 2014
- STOIIP P50 950 mmbbls of 28° and 41 ° API oils

Pre-stack depth imaging in West Africa

MSGBC Basin

TGS 2019 JAAN 3D

TGS NWAAM2017
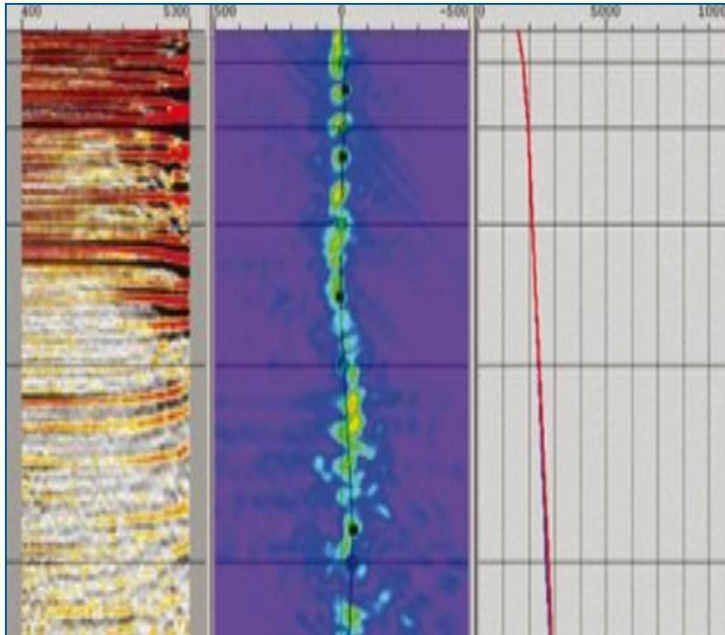
- Data reprocessing
- New 3D program

TGS
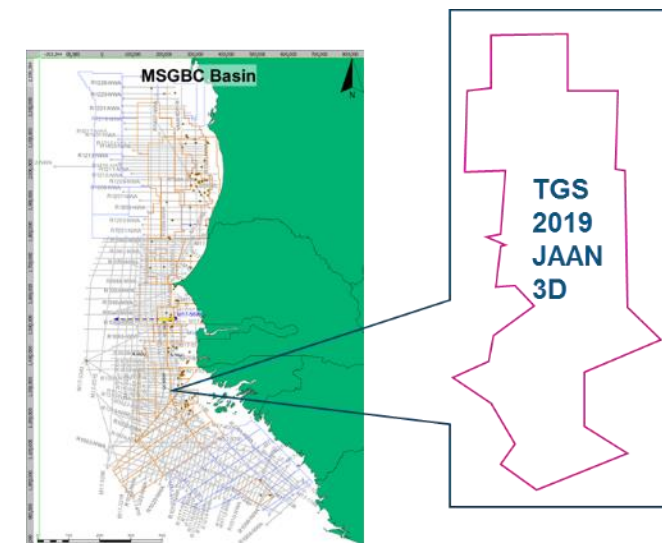
2D Seismic Acquisition and Imaging (1980-90s) over Vito Discovery

Growing demand for Imaging Technology

TGS has driven technology evolution

Strengthen reputation through tech' leadership
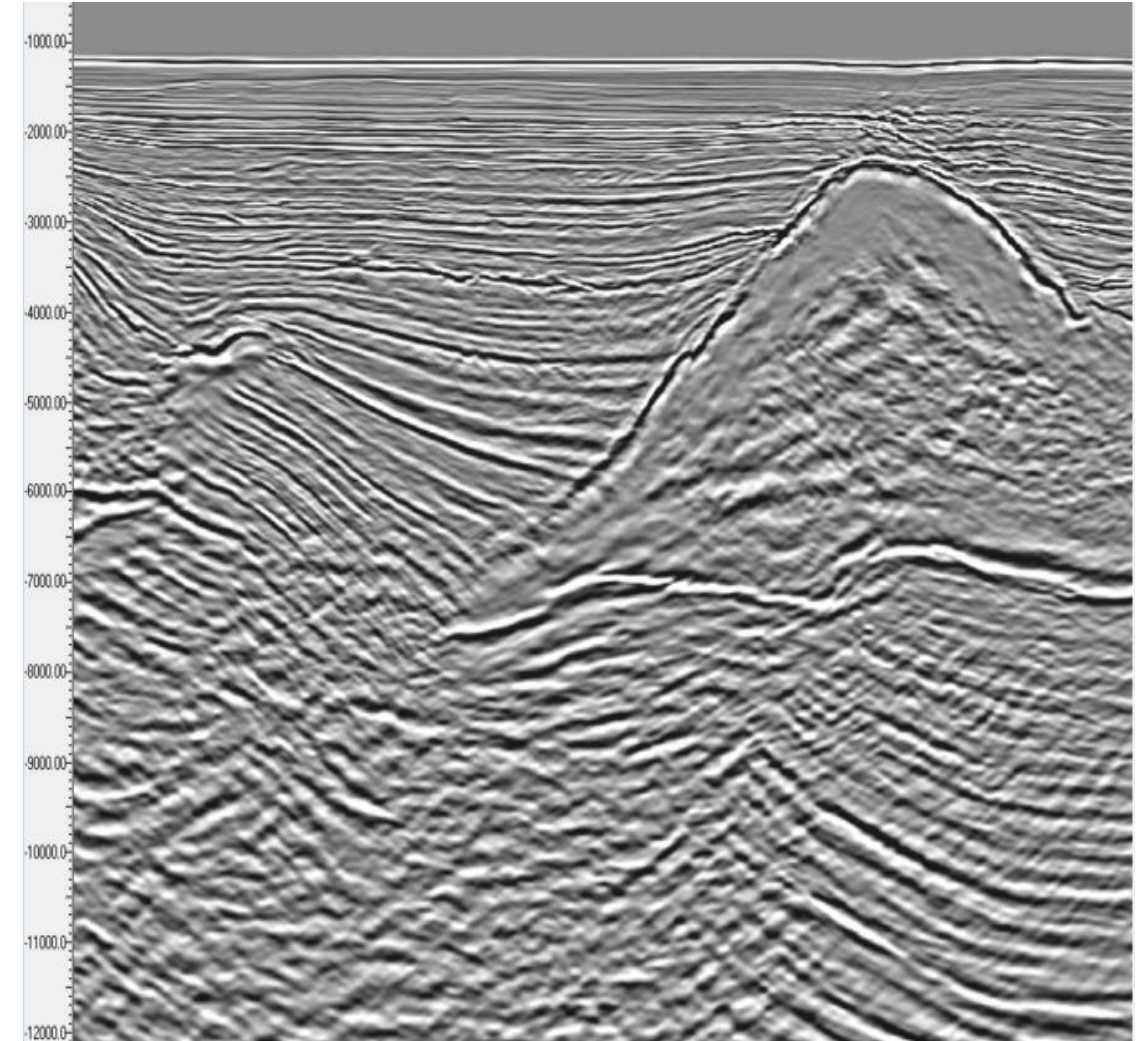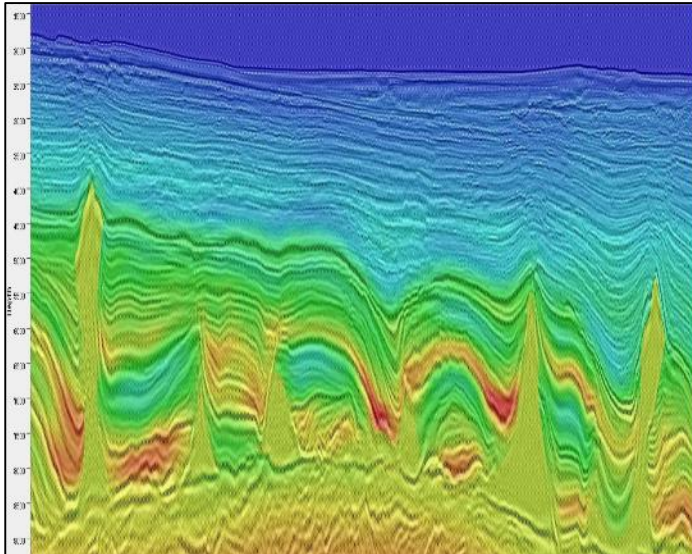
- 2D poor coverage

- Poor velocity model

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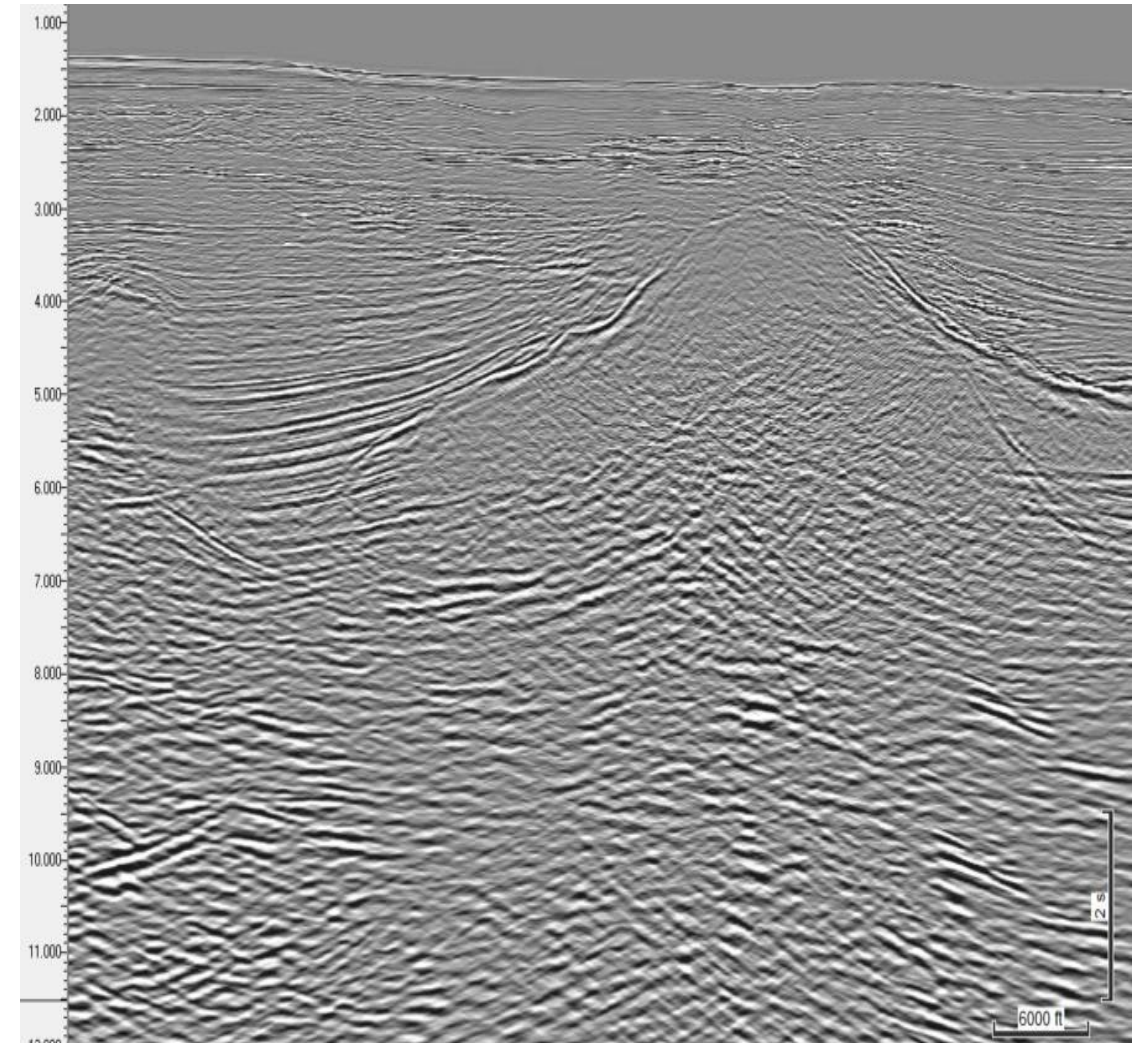
3D Seismic Acquisition and Imaging (2000s) over Vito Discovery

TGS has driven technology evolution

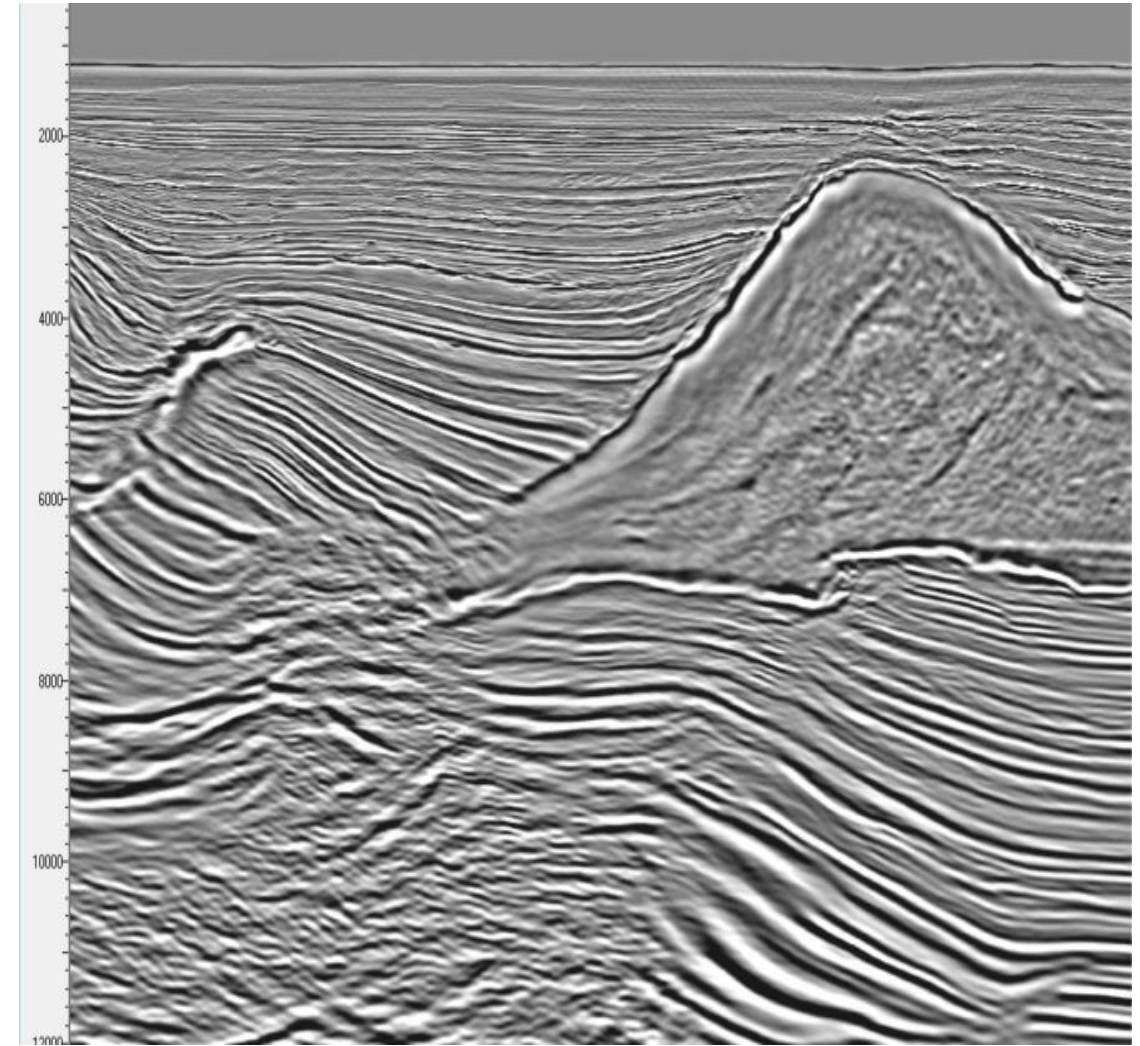- 3D good coverage
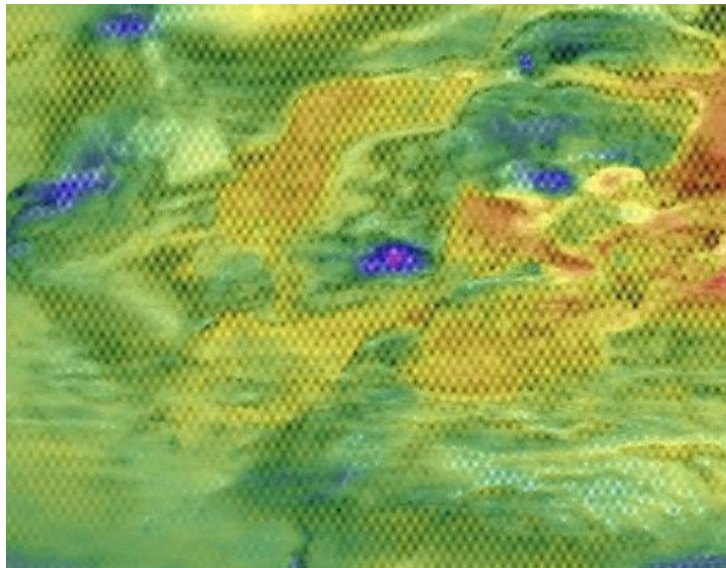
- Tomography improves model

Wide-Azimuth Acquisition and Imaging (2010s) Over Vito Discovery

Growing demand for Imaging Technology

TGS has driven technology evolution

Strengthen reputation through tech' leadership

- Wide azimuth better coverage
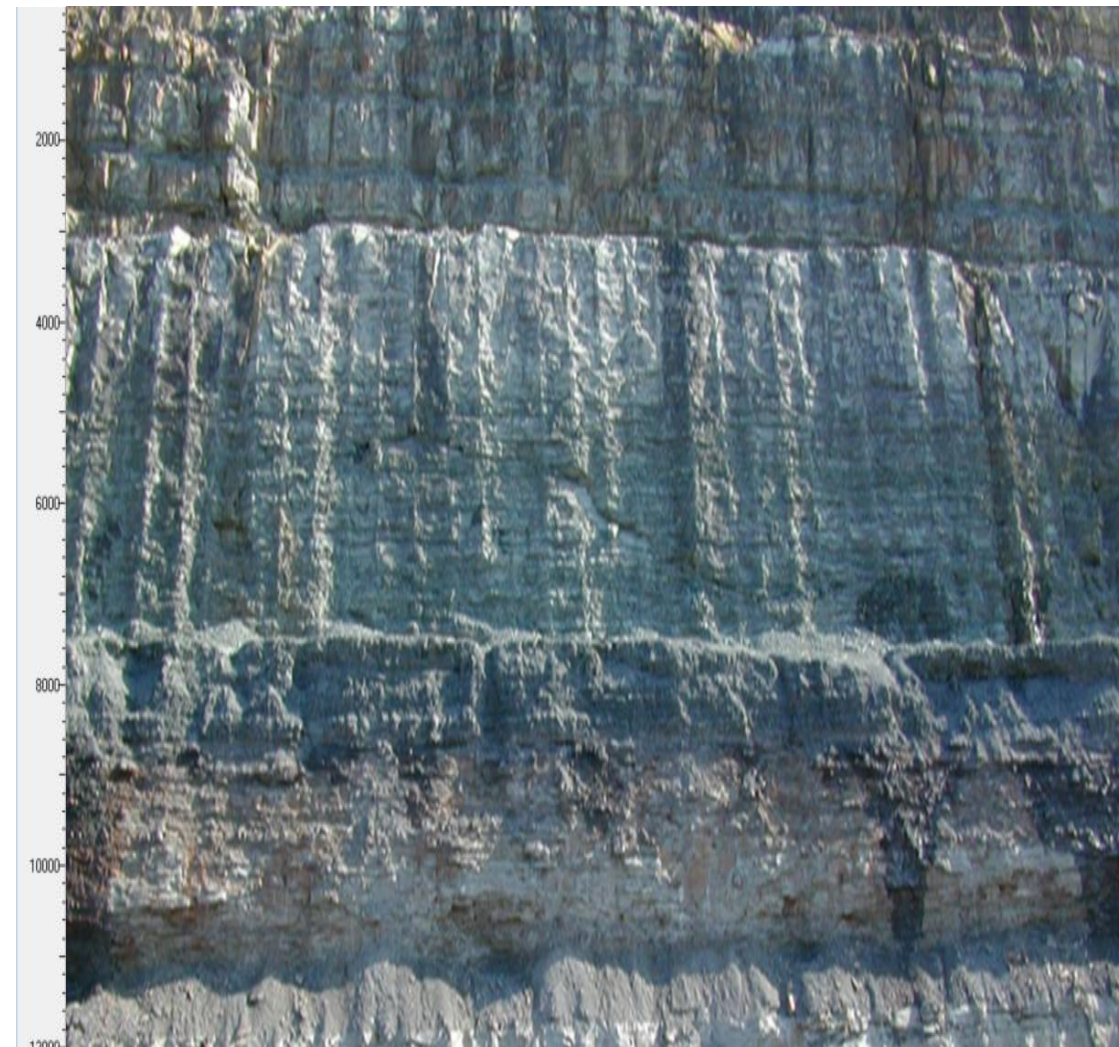- Full Waveform Inversion provides better model
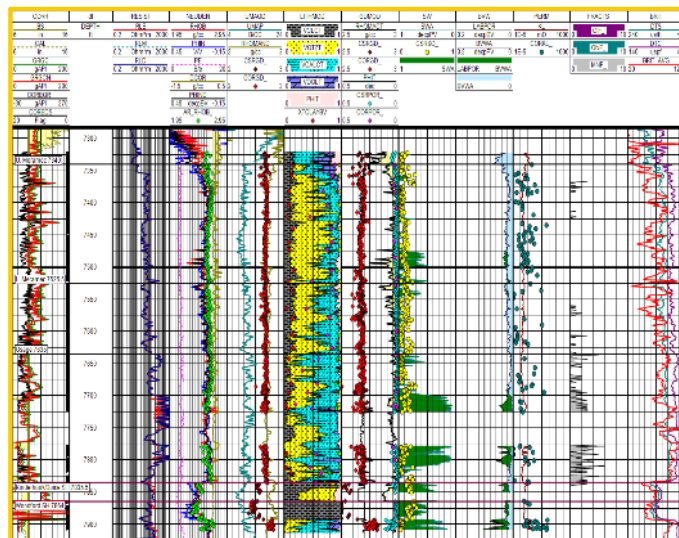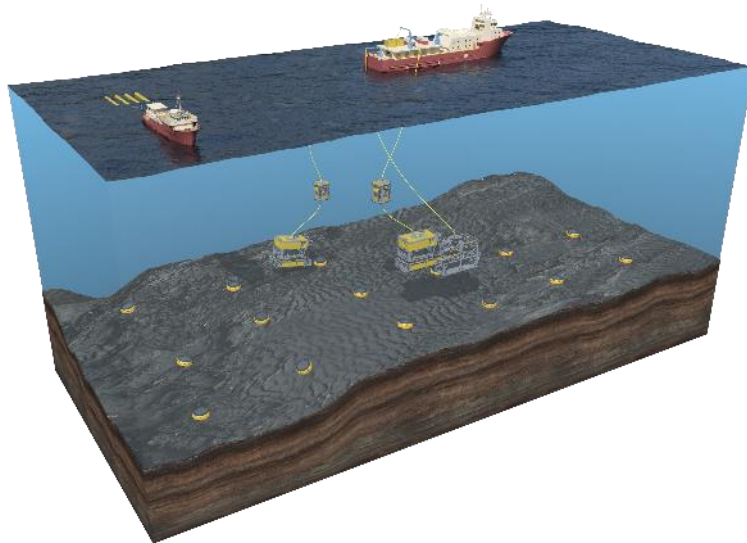
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Ocean Bottom Node Acquisition and Imaging (2020s)

Growing demand for Imaging Technology

TGS has driven technology evolution

Strengthen reputation through tech' leadership

- Ocean Bottom Node best coverage

- Elastic Inversion leads full reservoir characterization

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Leading Imaging technology, research & development, high performance computing and data analytics

Strengthen reputation through tech' leadership

Technology Driven Projects
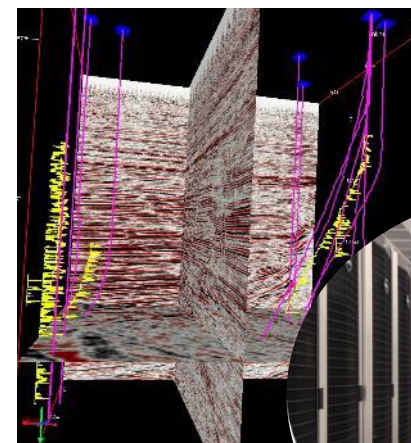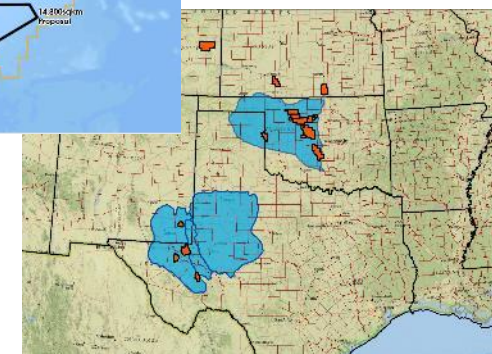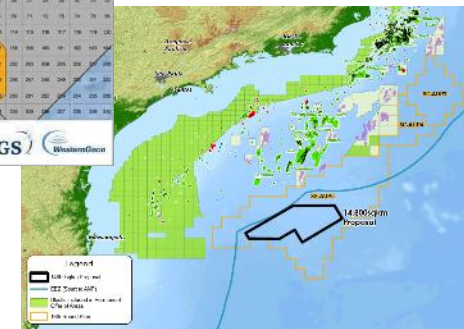
- OBN in mature basins
- FWI and Least-Squares migration in frontier areas
- Reservoir Characterization onshore

Client Focused Culture

- Top-tier processing shop
- Quality products and services
- Increase exposure to proprietary processing

Future Computing Strategy

- One of top-tier computer centers worldwide
- Cloud computing
- Next-generation software
- Data analytics

TGS
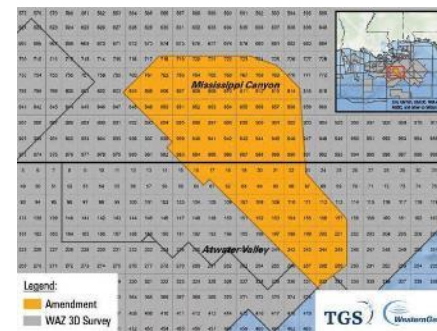
Summary and way forward

Growing demand for Imaging Technology

TGS has driven technology evolution

Strengthen reputation through tech' leadership

- Growing demand for Imaging technology in mature basins, onshore basins and frontier basins

- TGS has driven technology evolution, helping E&P companies to improve their understanding of the subsurface (2D – 3D – WAZ – OBN)

- TGS is investing in a technology roadmap to ensure that we are positioned as the leading subsurface data company. When E&P companies think subsurface data, they think TGS!
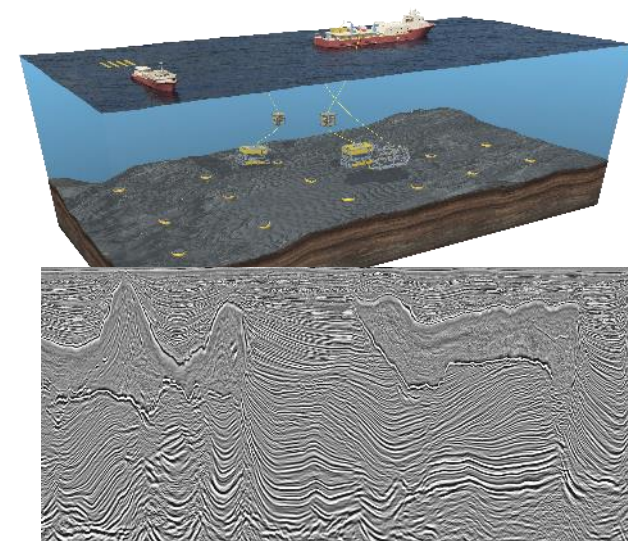
Q&A

Appendix

Income Statement
IFRS Reporting

(MUSD)		Q4 2018	Q4 2017	Change
Net operating revenues		**274.5**	**156.7**	**75%**
Cost of goods sold		0.3	0.1	244%
Amortization of multi-client library		94.7	76.8	23%
Gross margin	**65%**	**179.5**	**79.8**	**125%**
Personnel cost		21.6	17.4	24%
Other operational costs		9.8	8.7	13%
Cost of stock options		0.0	0.0	n/a
Depreciation		2.2	2.1	4%
Operating result	**53%**	**145.9**	**51.6**	**183%**
Net financial items		1.3	1.4	-4%
Result before taxes	**54%**	**147.2**	**53.0**	**178%**
Tax cost	8%	22.3	-2.0	n/a
Net income	**45%**	**124.9**	**55.0**	**127%**
EPS (USD)		1.22	0.54	127%
EPS fully diluted (USD)		1.21	0.53	127%

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Balance Sheet
IFRS Reporting

(MUSD)	Q4 2018	Q4 2017	Change
Goodwill	67.9	67.9	0%
Multi-client library	870.5	799.0	9%
Deferred tax asset	0.9	4.4	-80%
Other non-current assets	31.4	29.2	7%
Total non-current assets	**970.7**	**900.5**	**8%**
Cash and cash equivalents	273.5	249.9	9%
Other current assets	380.2	273.6	39%
Total current assets	**653.7**	**523.6**	**25%**
TOTAL ASSETS	**1,624.4**	**1,424.1**	**14%**
Total equity	**1,251.7**	**1,200.1**	**4%**
Deferred taxes	29.3	2.9	927%
Non-current liabilities	5.0	26.2	-81%
Total non-current liabilities	**34.3**	**29.1**	**18%**
Taxes payable, withheld payroll tax, social security	27.1	101.4	-73%
Other current liabilities	311.4	93.5	233%
Total current liabilities	**338.4**	**194.9**	**74%**
TOTAL EQUITY AND LIABILITIES	**1,624.4**	**1,424.1**	**14%**

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Reconciliation
Segment Reporting versus IFRS Reporting

Q4 2018 Income Statement (MUSD)	Segment Reporting	Diff.	IFRS Reporting
Net revenues	**188.3**	**86.2**	**274.5**
Amortization and impairment of multi-client library	86.1	8.7	94.7
Total operating expenses	**119.9**	**8.7**	**128.6**
Tax cost	8.4	13.9	22.3
Net income	**61.3**	**63.6**	**124.9**

Q4 2018 Balance sheet (MUSD)	Segment Reporting	Diff.	IFRS Reporting
Multi-client library	726.1	144.3	870.5
Total non-current assets	**825.9**	**144.8**	**970.7**
Other equity	1,261.8	-13.8	1,248.0
Total equity	**1,265.5**	**-13.8**	**1,251.7**
Non-current liabilities			
Deferred taxes	27.2	2.0	29.3
Total non-current liabilities	**87.4**	**-14.1**	**73.3**
Accounts payable and debt to partners	87.4	-28.6	58.7
Taxes payable, withheld payroll tax, social security	27.1	0.0	27.1
Other current liabilities	66.8	185.9	252.6
Total current liabilities	**181.2**	**157.2**	**338.4**

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Thank you

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