



# Pareto Securities Oil & Offshore Conference

Rune Olav Pedersen, President & CEO

Oslo, September 13, 2017

## Cautionary Statement

---

- This presentation contains forward looking information
- Forward looking information is based on management assumptions and analyses
- Actual experience may differ, and those differences may be material
- Forward looking information is subject to significant uncertainties and risks as they relate to events and/or circumstances in the future
- This presentation must be read in conjunction with other financial statements and the disclosures therein

# PGS Business Structure

## Marine Contract

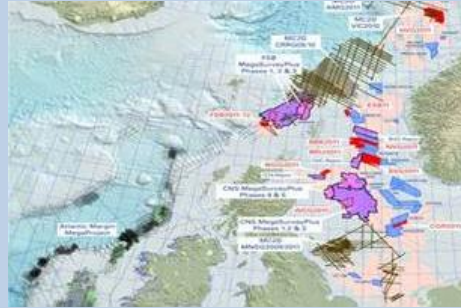


**Marine market leadership**

*28%\* of 2016 revenues*

Marine Contract delivers exclusive seismic surveys to oil and gas exploration and production companies

## MultiClient



**Diverse MultiClient library – Improving financial performance**

*62%\* of 2016 revenues*

MultiClient initiates and manages seismic surveys which PGS acquires, processes, markets and sells to multiple customers on a non-exclusive basis

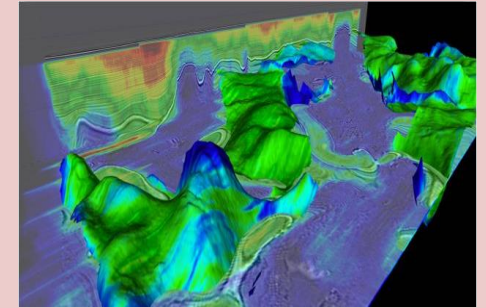
## Operations



**Productivity leadership**

Operations supports Marine Contract and MultiClient with vessel resources and manages fleet renewal strategies

## Imaging & Engineering



**Technology differentiation – Rapidly becoming at par with industry best**

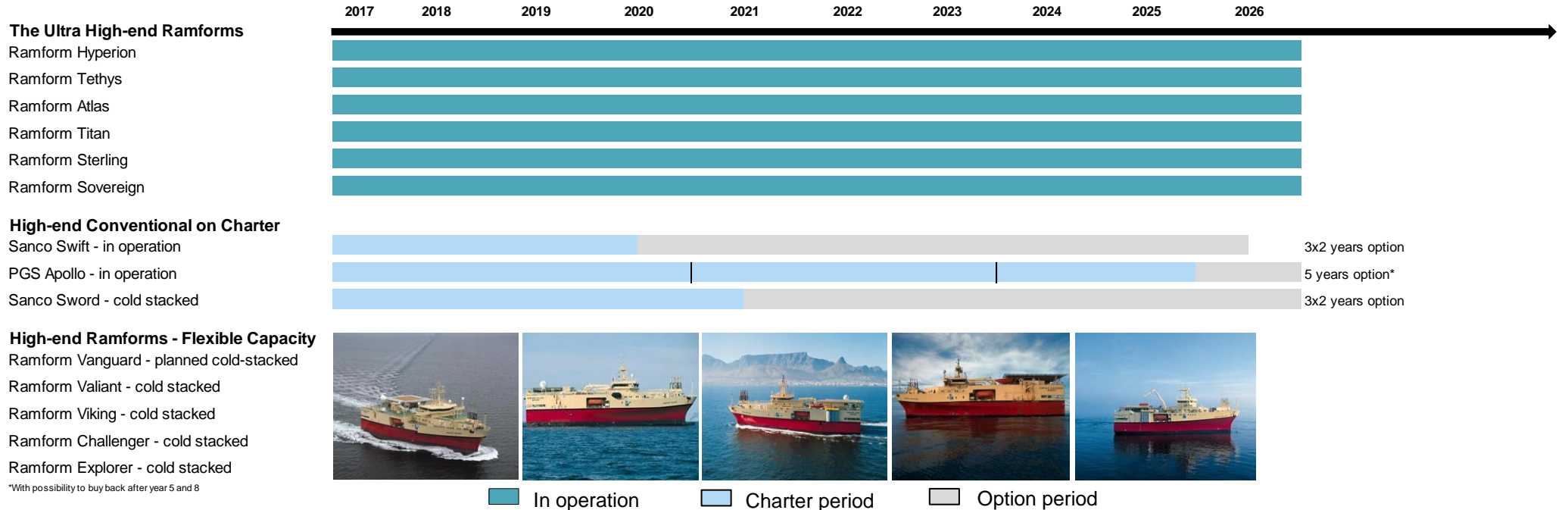
*9%\* of 2016 revenues*

Imaging and Engineering processes seismic data acquired by PGS for its MultiClient library and for external clients on contract and manages research and development activities

\*Remaining 1% relates to Other revenues.

# Competitive Advantage

## The World's Best Seismic Fleet with Flawless Operation

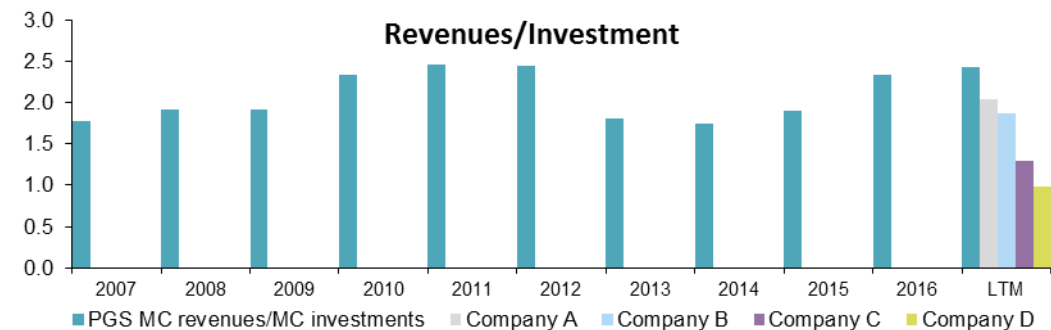
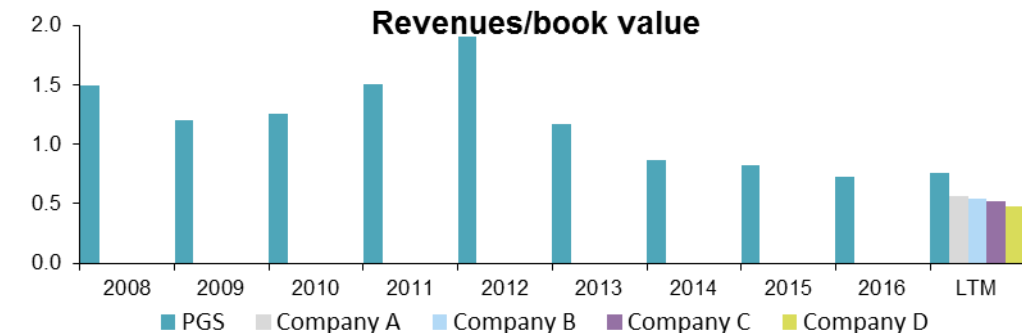
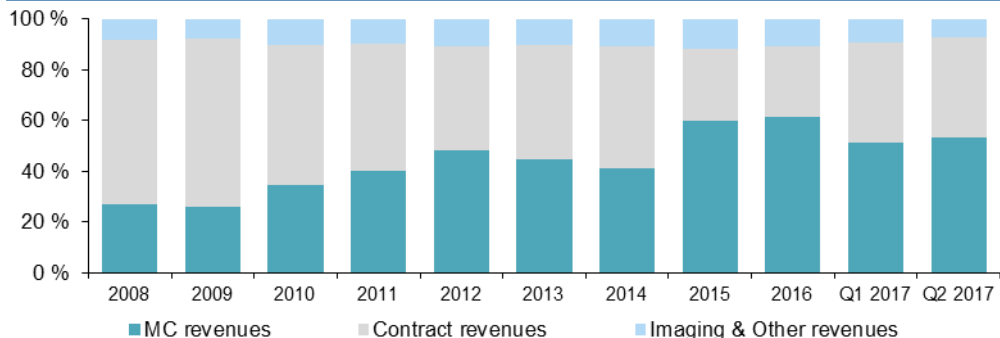


\*With possibility to buy back after year 5 and 8

- Combination of chartered high capacity conventional 3D vessels and temporarily cold-stacked first generation Ramform vessels:
  - Improves fleet flexibility
  - Chartered capacity with staggered expiry structure
  - Positions PGS well to take advantage of a market recovery

# Competitive Advantage

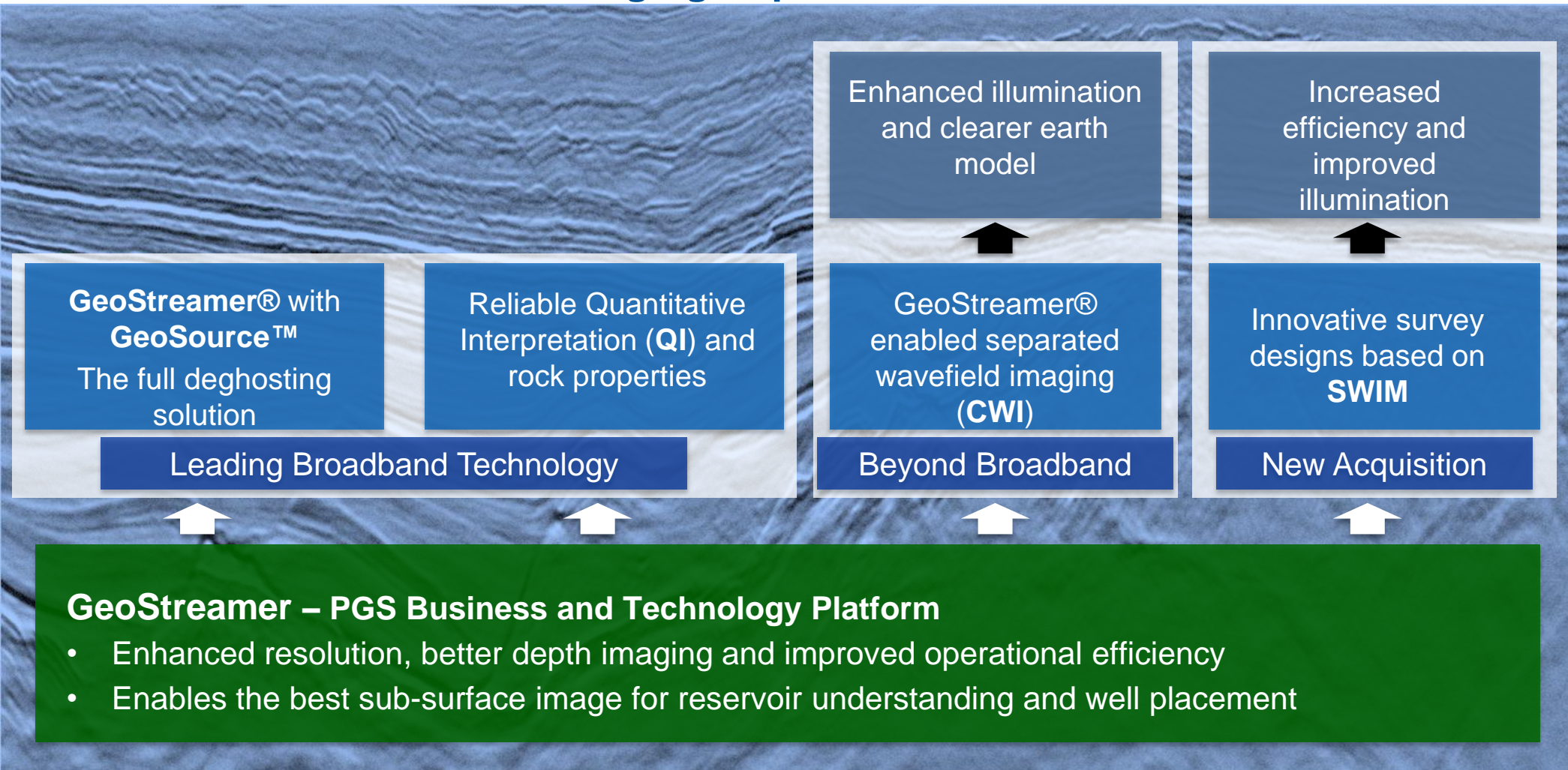
## Industry Leading MultiClient Performance



- Strategic priority since 2010 to increase weighting of the MultiClient business
  - Brings greater stability to overall Group performance in a highly cyclical market
  - MultiClient share of total market will continue to increase going forward
- Revenues currently dominated by MultiClient
  - 52% of revenues in 1H 2017, will increase significantly in 2H
  - Q2 2017 sales/investment of 2.9x
  - Most of EBITDA is generated by MultiClient activities
  - GeoStreamer, leading productivity and advanced, high quality imaging drives higher returns from library
- Retains flexibility to leverage a recovery in the marine contract market
  - Marine contract player with differentiating productivity and technology

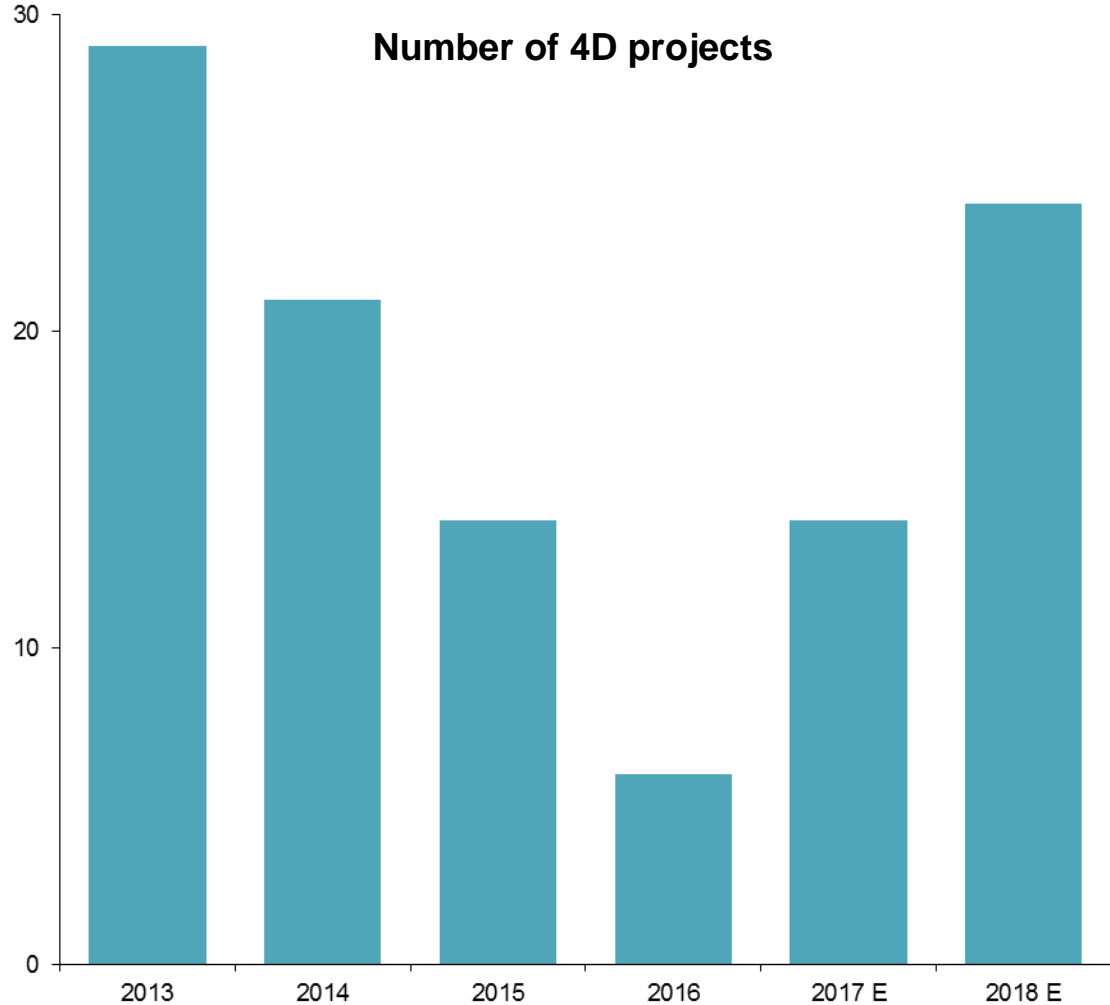


# Competitive Advantage GeoStreamer and Enhanced Imaging Capabilities



# Competitive Advantage

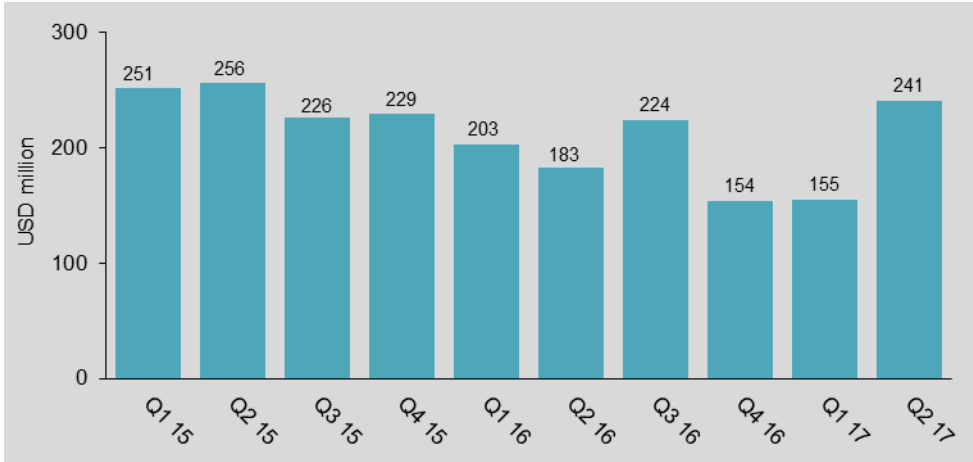
## Premium 4D Offering and Strong Market Share



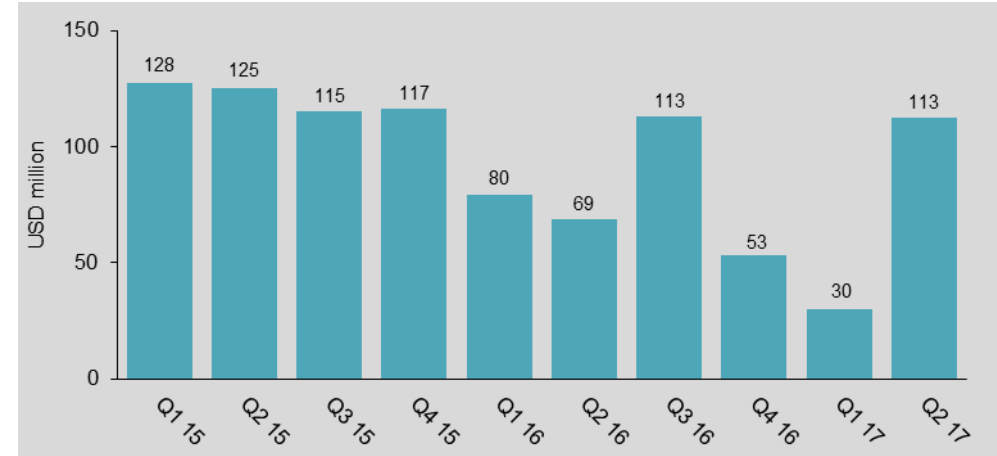
- Oil companies invest more in producing fields and fields under development
- Number of production seismic (4D) projects will more than double in 2017 compared to 2016, and is expected to increase further in 2018
- 4D activity increasing in North Sea, West Africa and Brazil
- PGS will conduct more than 50% of global 4D surveys for 2017
  - PGS is well positioned in the 4D market
  - ~35% of 2017 contract revenues expected to come from 4D

# Financial Summary

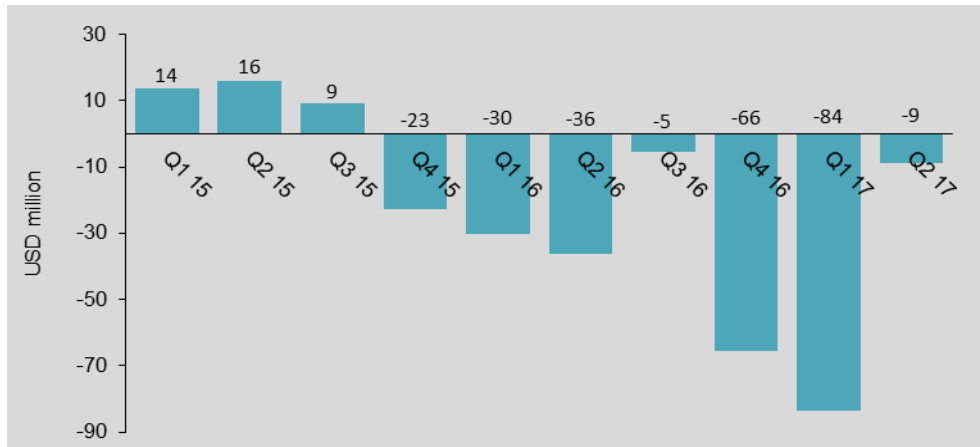
**Revenues**



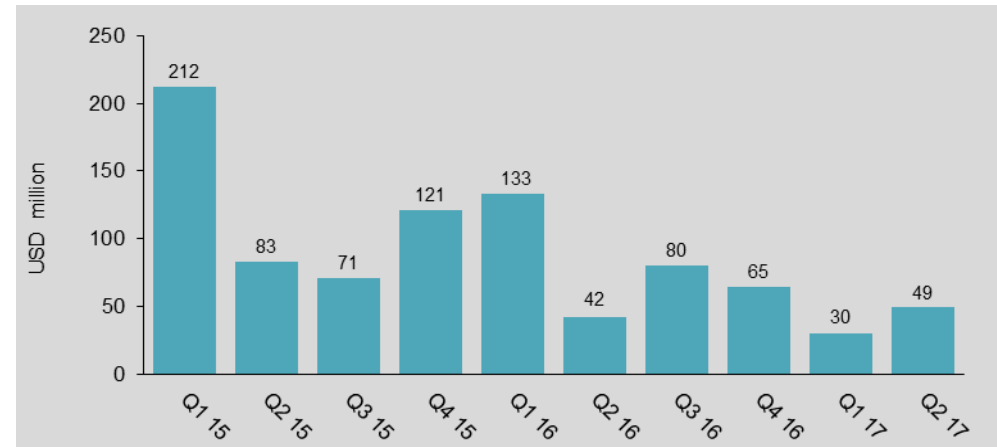
**EBITDA\***



**EBIT\*\***



**Cash Flow from Operations**

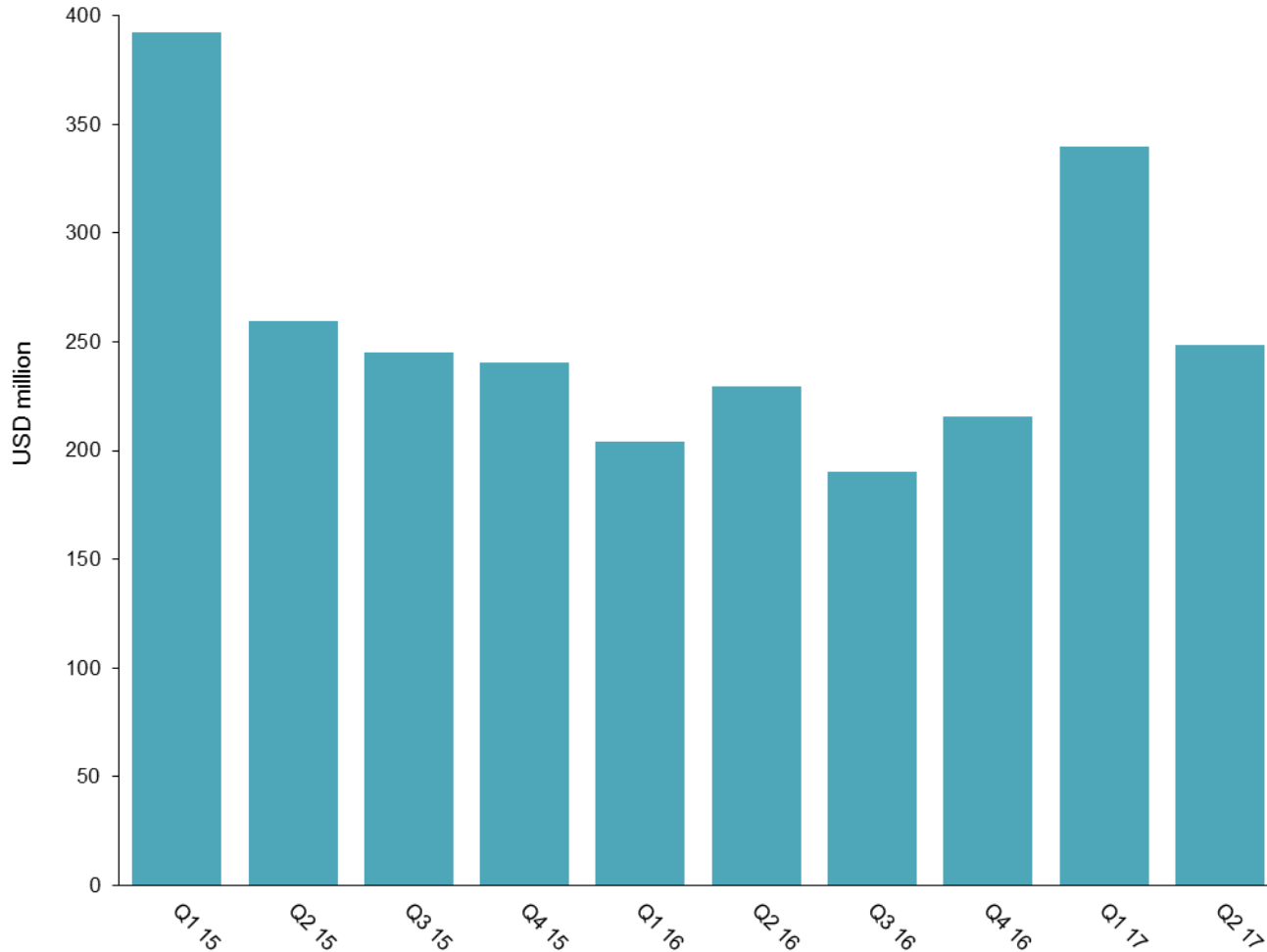


\*EBITDA, when used by the Company, means EBIT excluding Other charges, impairment and loss/gain on sale of long-term assets and depreciation and amortization.

\*\*Excluding impairments and Other charges.



# Order Book



- Order book of USD 248 million by end Q2 2017
- Vessel booking\*
  - ~90% booked for Q3 2017
  - ~45% booked for Q4 2017
  - ~15% booked for Q1 2018
  - ~5% booked for Q2 2018

\*As of September 12, 2017, based on 9 active vessels and excluding cold-stacked vessels. Vanguard cold stacked mid Q4.

# Market Activity

Bidding Activity for Marine Contract excluding MultiClient



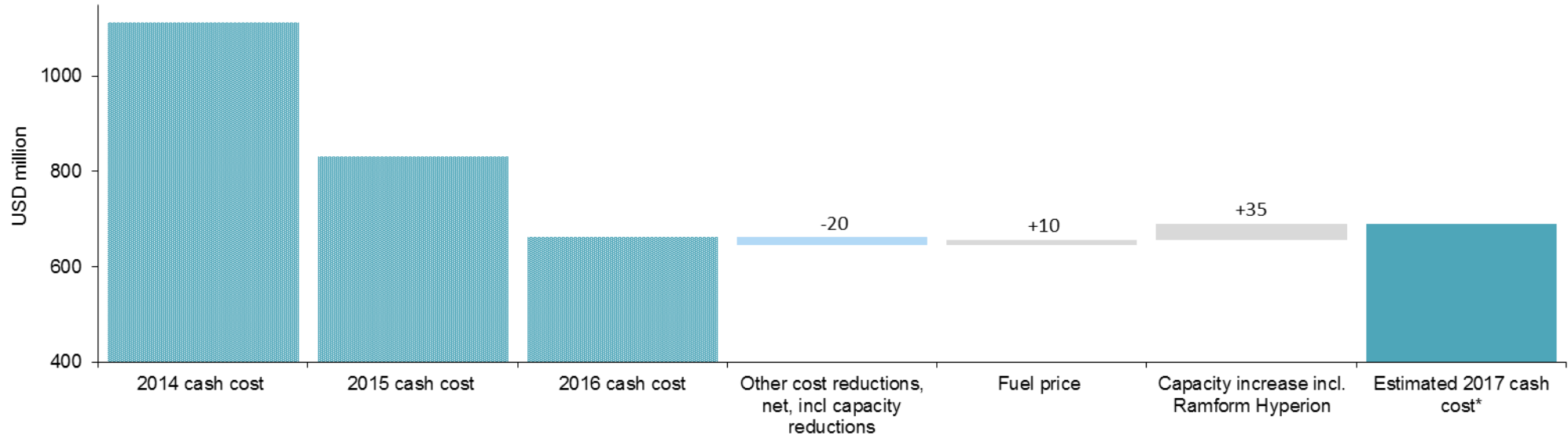
- Encouraging leads development for 2018
- Seismic demand primarily driven by:
  - Positioning for strategically important license rounds
  - Seismic commitments in E&P licenses
  - Significant increase in production seismic, especially in North Sea, West Africa and Brazil
- Overall relative MultiClient activity expected to continue to increase

## Marine Seismic Market



- Substantial improvement in oil companies' cash flow
  - Pockets of opportunity for Q2/Q3 contract pricing owing to more 4D production seismic and capacity constraints in some regional markets
- Outlook
  - Currently low and competitive contract bidding activity for Q4
  - Improved bid pipeline for Q1/Q2 2018

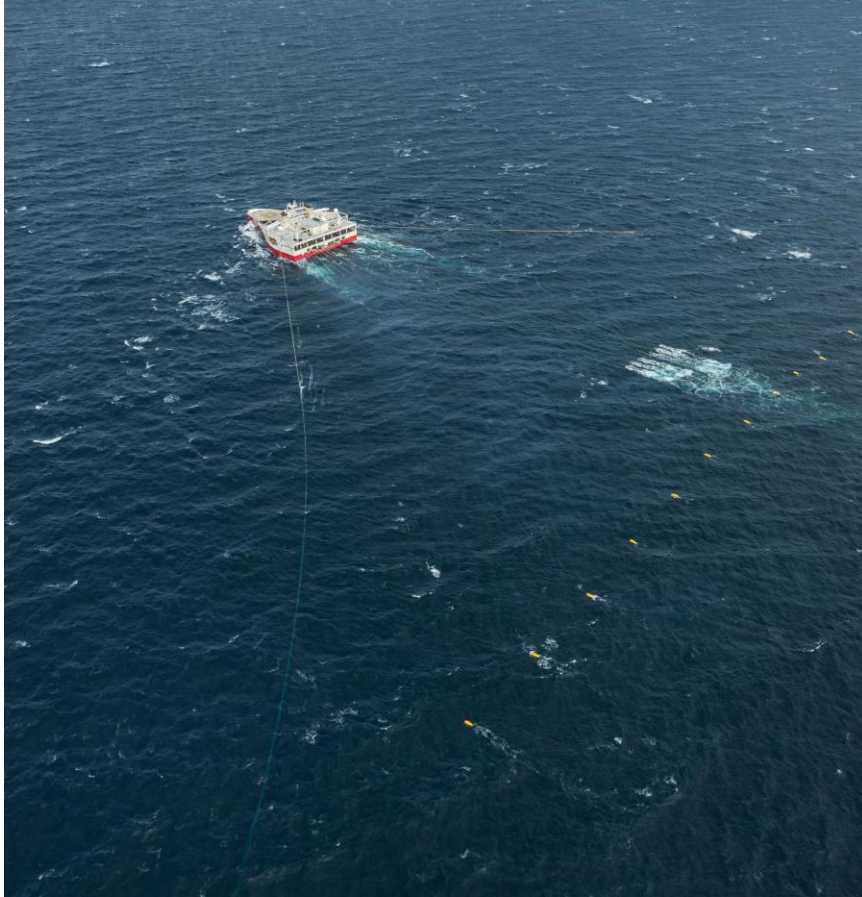
# Substantial Cost Reductions Achieved



- 2016 gross cash cost more than 40% lower than in 2014
- 2017 gross cash cost expected to be below USD 700 million – modest increase from structurally lower level in 2016 mainly attributable to:
  - More operated capacity with full year operation of *Ramform Tethys* and delivery of *Ramform Hyperion*
  - Some increase of fuel prices
- Further USD 50-60 million of gross cash cost reductions announced in Q2 2017 with effect from Q4 2017
  - Cold-stack of *Ramform Vanguard* after North Sea season

\*Estimate based on 30 June 2017 USD exchange rates against currencies in PGS cost base.

## Improving Competitive Position by Reducing Cost Base Further



- Substantial cost and CAPEX reductions delivered to address the weak market post 2013, but there is further potential
  - Several cost and CAPEX initiatives
  - Adjust capacity to market
  - Increase operational and seasonal flexibility
  
- PGS organizational structure established in 2010 to position the Company for growth
  
- A simpler and more effective organizational structure
  - Simplify and streamline organization to improve profitability and cash flow in a smaller and weaker market
  - Position the Company for MultiClient taking a larger share of vessel capacity
  - Adapt to a more centralized customer decision making process and less local content requirements
  
- Preserving PGS competitive advantages

**Centralize – Simplify – Streamline**



# In Conclusion

## Navigating in a Challenging Market Environment



- Q4 seasonally challenging for the industry
- Improved bid pipeline for Q1 2018
- Industry leading MultiClient performance
- Well positioned in a growing 4D market
- Initiating streamlining of organization and further cost and CAPEX reductions to improve profitability and cash flow



# Thank You – Questions?

## COPYRIGHT

The presentation, including all text, data, photographs, drawings and images (the "Content") belongs to Petroleum Geo-Services ASA, and/or its subsidiaries ("PGS") and may be protected by Norwegian, U.S., and international copyright, trademark, intellectual property and other laws. Accordingly, neither the whole nor any part of this document shall be reproduced in any form nor used in any manner without express prior written permission by PGS and applicable acknowledgements. In the event of authorized reproduction, no trademark, copyright or other notice shall be altered or removed. © 2015 Petroleum Geo-Services ASA. All Rights Reserved.

# Appendix

## Balance Sheet Key Numbers



	June 30	June 30	December 31
USD million	2017	2016	2016
Total assets	2,860.1	2,970.3	2,817.0
MultiClient Library	606.7	686.1	647.7
Shareholders' equity	1,250.9	1,350.3	1,359.4
Cash and cash equivalents (unrestricted)	53.3	49.7	61.7
Restricted cash	111.5	95.0	101.0
Liquidity reserve	228.3	429.7	271.7
Gross interest bearing debt	1,290.1	1,352.3	1,191.4
Net interest bearing debt	1,126.2	1,207.6	1,029.7

- Liquidity reserve of USD 228.3 million
  - Drawings on the Revolving credit facility increased by USD 60 million in Q2 for working capital fluctuations, the Company expects to reduce drawing in Q3
- Total leverage ratio of 4.39:1 as of June 30, 2017, compared to 4.88:1 as of March 31, 2017
- Shareholders' equity at 44% of total assets

	Q2	Q2	First half	First half	Full year
USD million	2017	2016	2017	2016	2016
Cash provided by operating activities	49.4	42.4	79.4	175.8	320.9
Investment in MultiClient library	(43.8)	(41.8)	(77.4)	(90.1)	(201.0)
Capital expenditures	(17.1)	(67.0)	(124.7)	(181.4)	(218.2)
Other investing activities	(3.7)	(2.9)	17.8	(100.2)	(109.5)
<b>Net cash flow before financing activities</b>	<b>(15.2)</b>	<b>(69.3)</b>	<b>(104.9)</b>	<b>(195.9)</b>	<b>(207.8)</b>
Financing activities	29.7	2.4	96.5	164.0	187.9
<b>Net increase (decr.) in cash and cash equiv.</b>	<b>14.5</b>	<b>(66.9)</b>	<b>(8.4)</b>	<b>(31.9)</b>	<b>(19.9)</b>
Cash and cash equiv. at beginning of period	38.8	116.6	61.7	81.6	81.6
<b>Cash and cash equiv. at end of period</b>	<b>53.3</b>	<b>49.7</b>	<b>53.3</b>	<b>49.7</b>	<b>61.7</b>

- Cash flow from operating activities of USD 49.4 million in Q2 2017
  - Y-o-Y increase due to higher earnings, partially offset by a significant increase in accounts receivables as a result of high revenues in the second half of the quarter which will benefit cash flow in Q3 2017

# Appendix

## Summary of Debt and Drawing Facilities



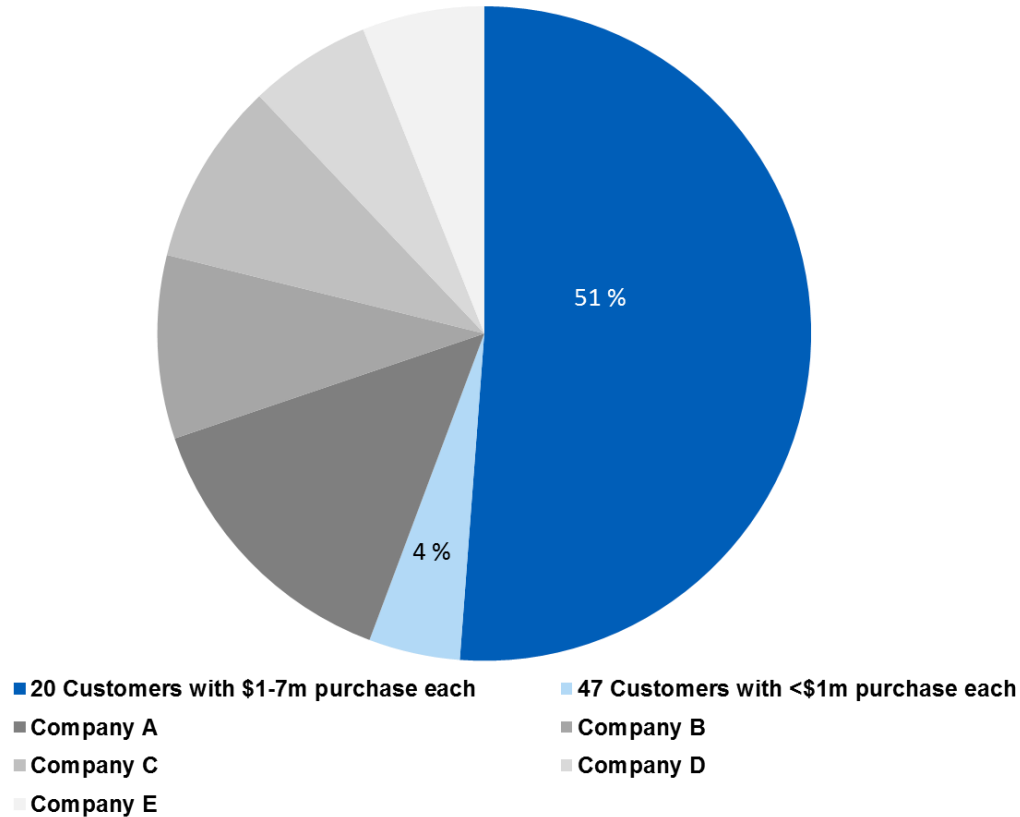
Long-term Credit Lines and Interest Bearing Debt	Nominal Amount as of June 30, 2017	Total Credit Line	Financial Covenants
USD 400.0 million Term Loan (“TLB”), Libor (minimum 0.75%) + 250 basis points, due 2021	USD 387.0 million		None, but incurrence test: total leverage ratio $\leq 3.00x^*$
Revolving credit facility (“RCF”), due 2020 Libor + margin of 325-625 bps (linked to TLR) + utilization fee	USD 225.0 million	USD 400.0** million	Maintenance covenant: total leverage ratio $\leq 5.50x$ , to Q2-2017, 5.25x Q3-17, 4.75x Q4-17, 4.25x Q1-18, thereafter reduced by 0.25x each quarter to 2.75x by Q3-19
Japanese ECF, 12 year with semi-annual instalments. 50% fixed/ 50% floating interest rate	USD 440.1 million		None, but incurrence test for loan 3&4: Total leverage ratio $\leq 3.00x^*$ and Interest coverage ratio $\geq 2.0x^*$
December 2020 Senior Notes, coupon of 7.375%	USD 212.0 million		None, but incurrence test: Interest coverage ratio $\geq 2.0x^*$
December 2018 Senior Notes, coupon of 7.375%	USD 26.0 million		None

\*Carve out for drawings under ECF and RCF

\*\*Reducing to USD 350 million in September 2018.



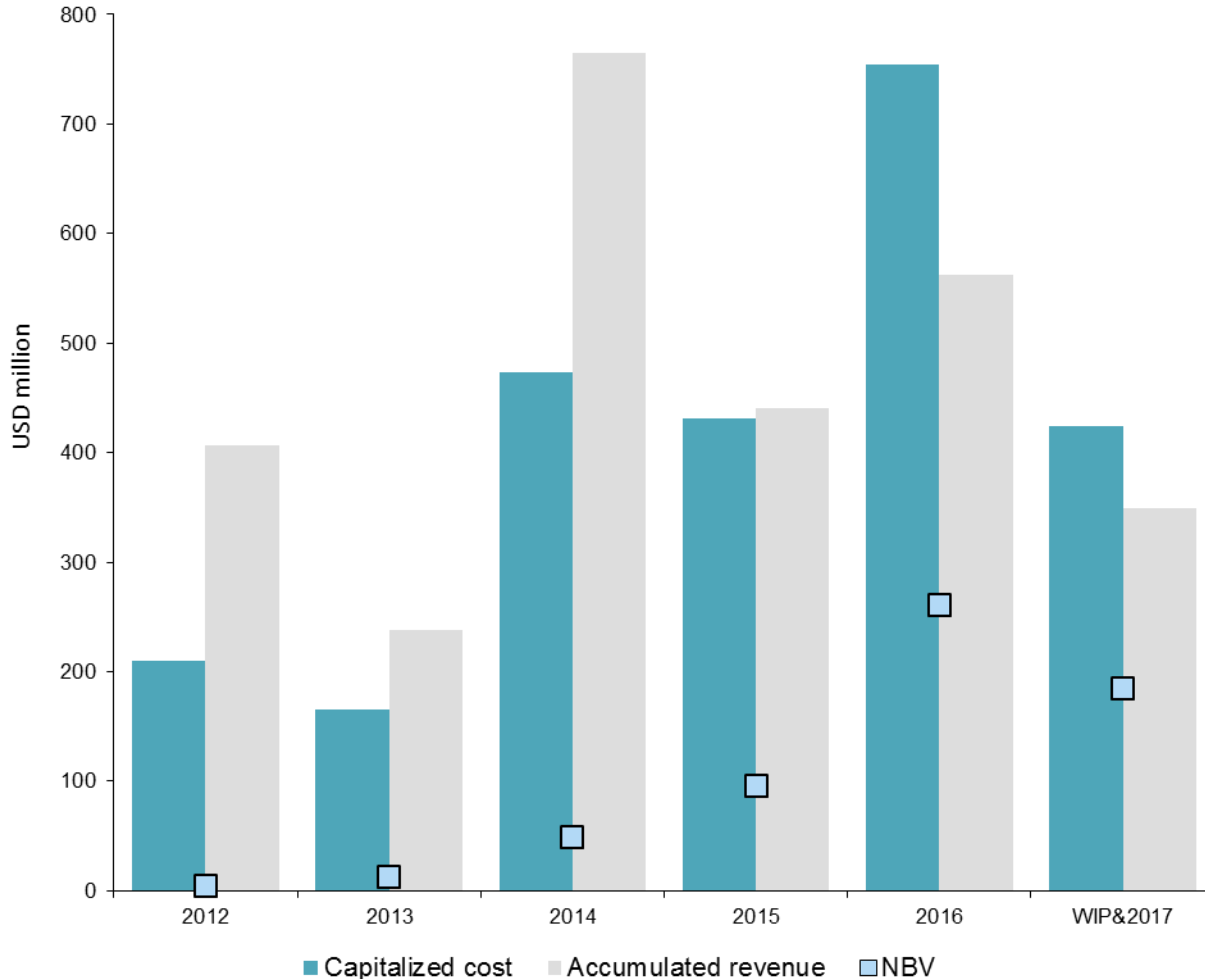
Customer distribution of Q2 MultiClient revenues



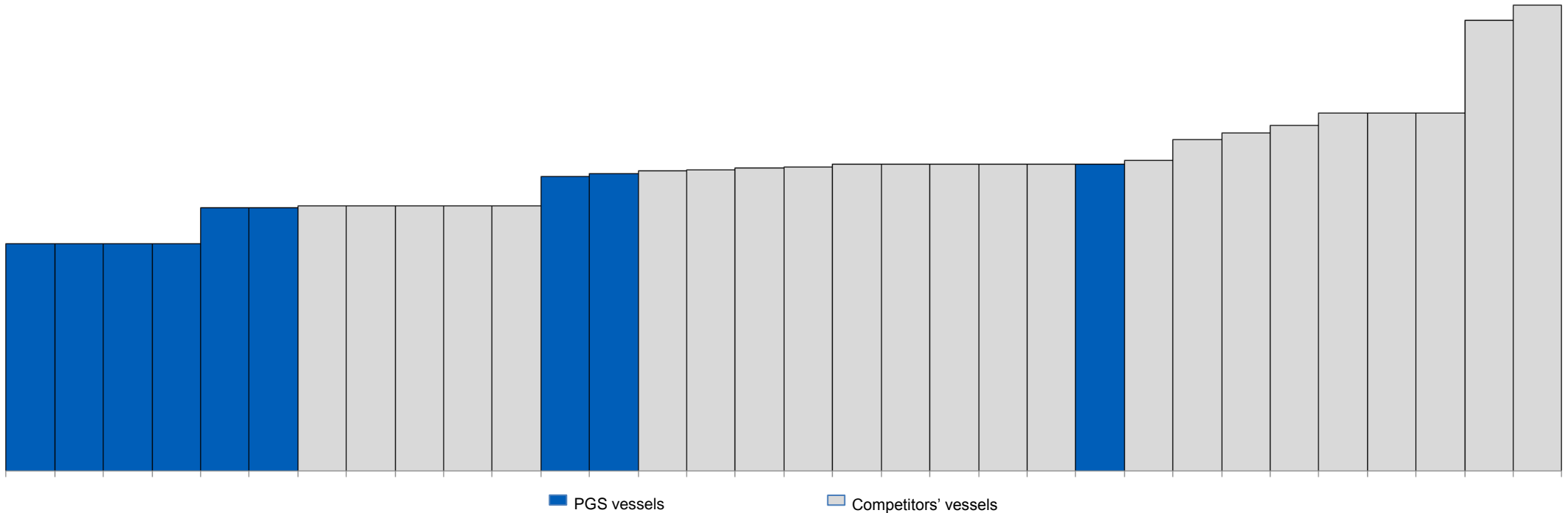
- PGS sold MultiClient data to more than 70 different clients world wide in Q2
  - Distributed over 90 projects
- PGS high quality GeoStreamer MultiClient data library attracts strong client interest, generating industry leading sales performance

# Appendix

## MultiClient Vintage Distribution



- MultiClient net book value of USD 606.7 million as of June 30, 2017
  - Down from USD 647.7 million at year-end 2016
- Moderate net book value for surveys completed 2012-2015
- Q2 2017 amortization rate of 61%
- 2017 amortization expense expected to be in the range of USD 350-375 million



- PGS retains lead on lowest cash cost per streamer
- Ramform vessels best positioned for both large, and streamer intensive (4D) surveys

Source: PGS internal estimates. The cash cost curve is based on typical number of streamer towed, and excludes GeoStreamer productivity effect. The graph shows all seismic vessels operating in the market. The Ramform Titan-class vessels are incorporated with 16 streamers, S-class with 14 streamers.

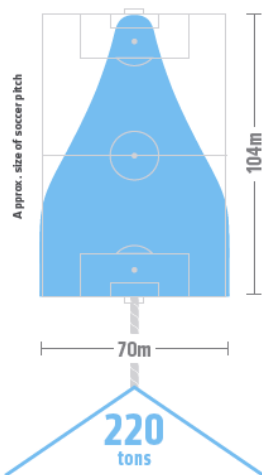
# Appendix

## RAMFORM Titan-Class

25 years

### Lifespan

Setting the benchmark for this generation of seismic vessels and the next.



### Engineered for Geoscience



#### Stability

The Titan design ensures better performance and room for growth. The ultra-broad delta shaped hull provides fantastic seakeeping capabilities and also means a smooth ride.



#### Endurance

120 days without re-fueling.  
Dry docking interval 7.5 years.

Maintenance at sea lowers operating costs.



#### Redundancy

3 propellers, each with 2 motors - fully operational with 2 propellers.

2 engine rooms, each with 3 generators - fully operational with 1 engine room.



#### All Weather

Widening the weather window and extending the seasons in northern and southern hemispheres without compromising HSEQ.



#### Fuel Capacity

Providing flexibility and endurance.



#### Power

Additional power enables more in-sea and onboard equipment.

#### Wire Pull @ 4.5 kts

This measures towing force through the water and is a more realistic representation of towing capability than bollard pull (300 tons).

#### Space = Flexibility

Three times larger than modern conventional vessels, the Titans offer a highly efficient work environment with ample space for equipment, maintenance and accommodation.



#### Towing & Handling

24 reel and streamer capacity and back deck automation provides flexibility, rapid deployment and safe retrieval.

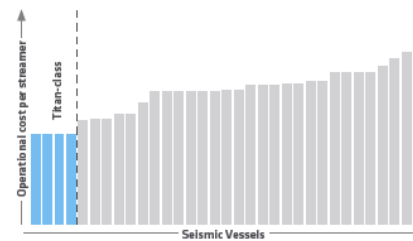
## Performance Results

### Downtime



Ramform Titan - Zero maritime downtime and only 2.7% seismic downtime to date. Total sq km acquired by Titan-class vessels is 89,712 sq. km.

### Cost/Streamer



Ultra high capacity seismic vessels are more cost effective.

## Records



### Rapid Deployment

16 streamers (each 8.1 km) safely deployed in just 73 hours.

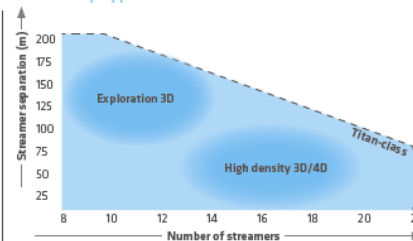
### Large Spread

13.75 sq. km fan spread with 18 streamers (each 7.05 km) x 100 m separation (130 m at tail end).

### Fast Acquisition

Highest production 175 sq.km in a day (average for this survey = 139 sq.km/day).

### All Survey Types



Titan-class vessels cover all the bases from highly efficient reconnaissance exploration surveys to the detailed resolution required for 4D production seismic.

## HSEQ

Layout supports One Culture operations improving all aspects of HSEQ.



### Health

Social zones, gym, stability - rested crews perform better.



### Safety

Stable platform minimizes risk of fatigue, trips and falls. Space to work, redundancy in power and propulsion, 2 stern-launched workboats, back-deck automation.



### Environment

Larger spreads and faster turnaround mean fewer days on each job and leaves a smaller environmental footprint. DNV GL Clean Design - max 50x content of < 2.5%. Reactive catalysts reduce NOx emissions by 90%.

## Future Proof



### Quality

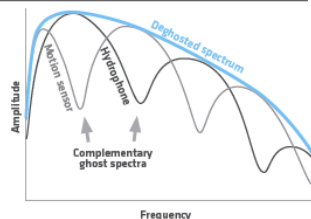
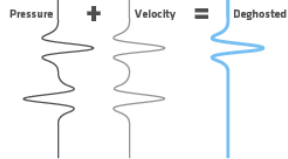
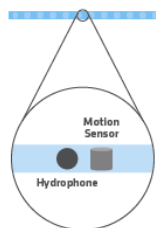
Superior platform to deploy the best dual-sensor technology - 100% GeoStreamer. Equipped with streamer and source steering.

# GeoStreamer<sup>®</sup> since 2007

## More Measurements – Fewer Assumptions – Better Decisions

### Dual Sensors

Complementary recordings facilitate deghosting by wavefield separation at all water depths.



### Prestack Deghosting – More Options

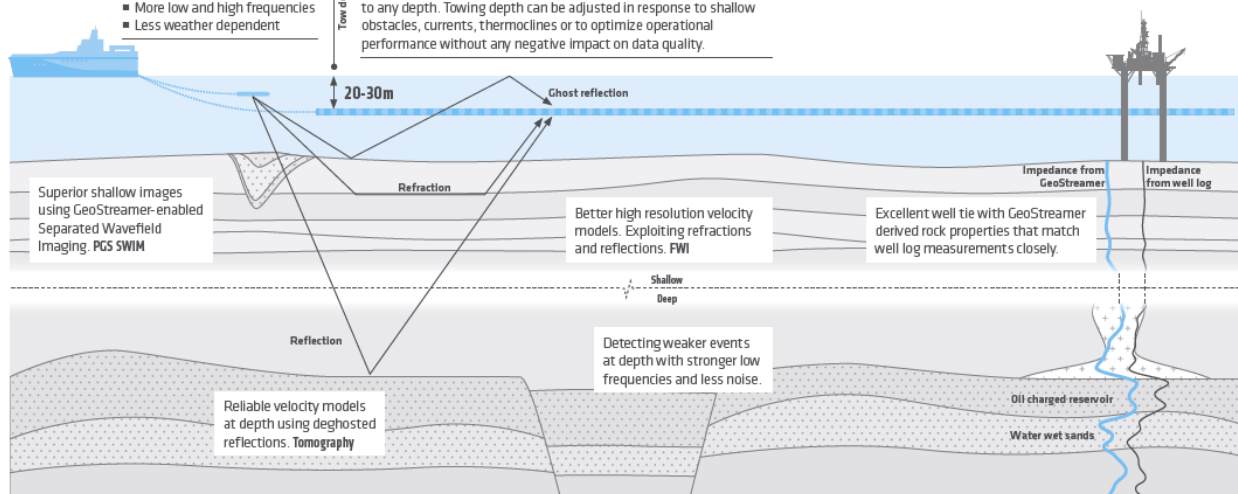
Deghosting using dual-sensor measurements with their complementary ghost spectra eliminates frequency gaps, and provides access to separate wavefield components for advanced processes like PGS SWIM, FWI and Reflection Tomography.

### Deep Tow

- Better signal, less noise
- More low and high frequencies
- Less weather dependent

### Flexible Tow Depth

Dual-sensor recording enables us to re-daturn the pressure wavefield to any depth. Towing depth can be adjusted in response to shallow obstacles, currents, thermoclines or to optimize operational performance without any negative impact on data quality.

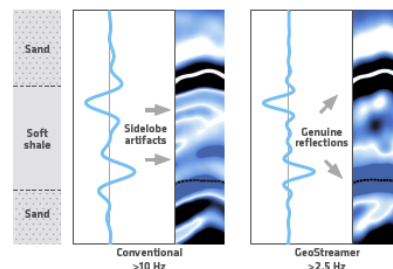


PGS vessels  
**100%**  
GeoStreamer

**1.4 Million**  
meters of active streamer

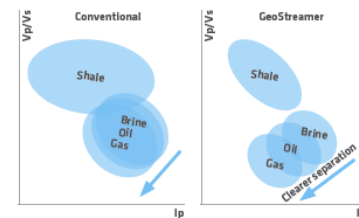
### Broader Bandwidth – Sharper Boundaries

Rich low frequency content reduces sidelobe artifacts, providing clearer reservoir details.



### De-risking with Precise Rock Properties

GeoStreamer prestack deghosting provides reliable attributes for better understanding of rock and fluid distribution. Improved attribute computations reduce uncertainty and enable more precise estimation of reserves.



### Monitoring Reservoir Changes

Wavefield reconstruction enables high repeatability for both legacy surveys and future 4D monitoring independent of sea-state. This reveals more subtle production-related changes.

### Proven in all Play Types

- **SUB-SALT** Improved signal recovery and amplitude characterization.
- **SUB-BASALT** Clearer sub-basalt imaging and intra-basalt layer definition.
- **CLASTICS** Reliable reservoir properties without the need for well control.
- **CARBONATES** Detailed mapping of internal structures and better porosity prediction.
- **INJECTITES** Resolution of complicated geometries and identification of true geological impedance boundaries.

Experience that counts  
**450 000 KM<sup>2</sup>**  
acquired worldwide



Aug 2016

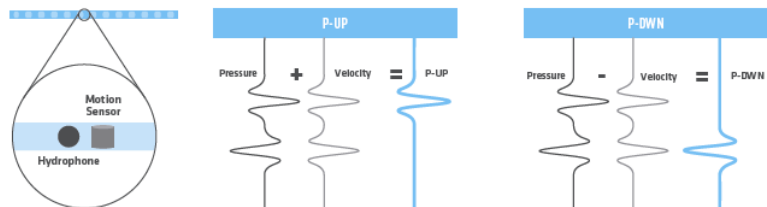


# PGSSWIM<sup>®</sup>

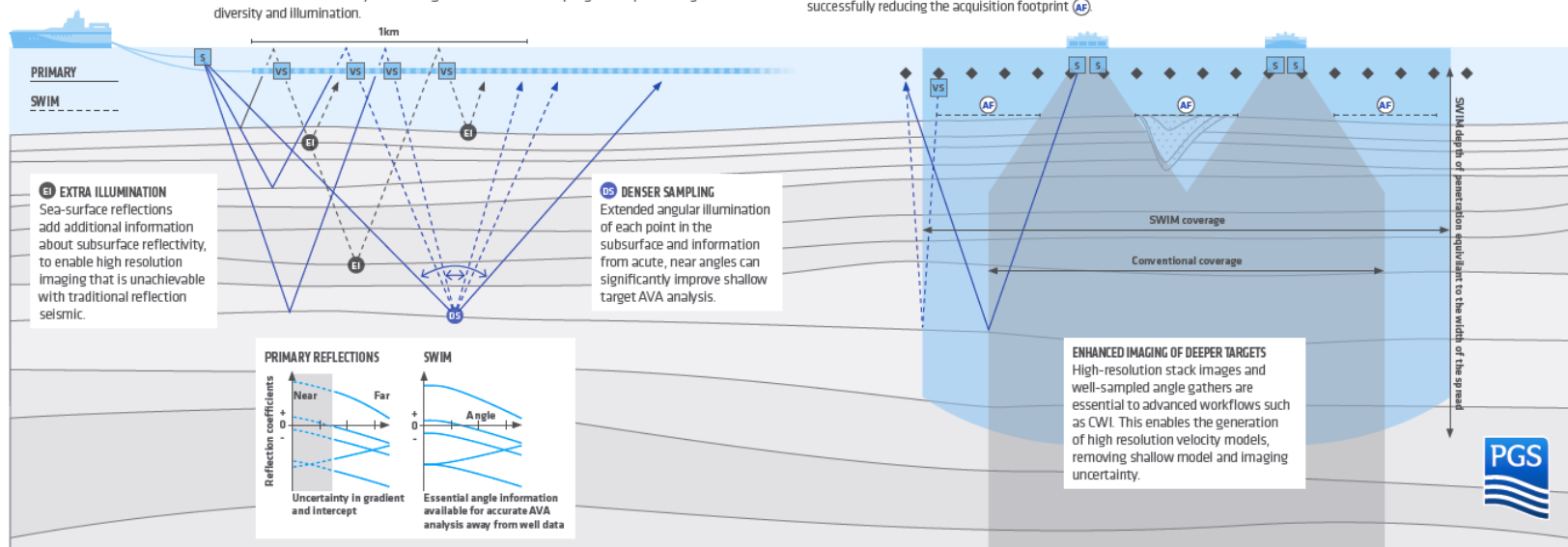
## Extending Illumination and Angular Diversity

### GeoStreamer data and SWIM imaging

Separated Wavefield Imaging (SWIM) is an innovative depth-imaging technology that uses both up- and down-going wavefields, recorded by GeoStreamer<sup>®</sup> dual hydrophone and motion sensors.



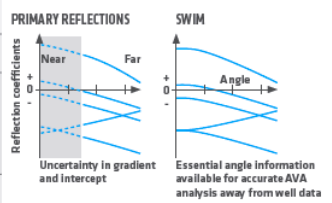
**VS VIRTUAL SOURCES** Utilizing sea-surface reflections and making each receiver a virtual source results in the survey area having increased source sampling and improved angular diversity and illumination.



**E EXTRA ILLUMINATION**  
Sea-surface reflections add additional information about subsurface reflectivity, to enable high resolution imaging that is unachievable with traditional reflection seismic.

**DS DENSER SAMPLING**  
Extended angular illumination of each point in the subsurface and information from acute, near angles can significantly improve shallow target AVA analysis.

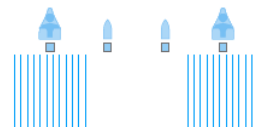
**ENHANCED IMAGING OF DEEPER TARGETS**  
High-resolution stack images and well-sampled angle gathers are essential to advanced workflows such as CWI. This enables the generation of high resolution velocity models, removing shallow model and imaging uncertainty.



## SWIM + Survey Geometries



**NARROW AZIMUTH TO WIDE TOW SWIM**  
enables the design and use of cost effective acquisition geometries such as super-wide tow. For narrow azimuth surveys in shallow water SWIM yields better sampled data in the angle domain.



**WIDE AZIMUTH** The extra subsurface illumination of sea-surface reflections combined with Wide Azimuth (WAZ) acquisition facilitates the imaging of salt flanks and other steeply dipping structures.



## Reduce Acquisition Footprint

Turning the receiver spread into virtual sources **VS** and receiver arrays reduces source sampling in the crossline direction from the distance between sail lines to that between streamers. Using SWIM in shallow water fills in gaps in near-surface coverage successfully reducing the acquisition footprint **AF**.

## Further Uses

**OCEAN BOTTOM DATA**  
SWIM has been successfully applied to seabed data such as ocean bottom node and cable recordings. SWIM can increase the shallow image area of the seabed and the underlying sediments by up to 700%.

**IMPROVED MULTIPLE REMOVAL**  
SWIM enables the generation of detailed shallow overburden images that are a requirement for some data-driven 3D SRME multiple removal methods.

**REDUCING DRILLING RISK** Superior illumination of the overburden using SWIM provides high-resolution images suitable for shallow hazard work, helping to identify drilling risks.

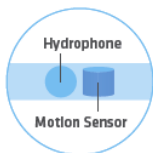
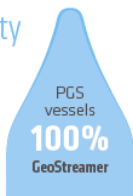
# ACQUISITION SOLUTIONS

**RAMFORM + GEOSTREAMER = EFFICIENCY + QUALITY**

The unique combination of GeoStreamer® technology and Ramform® vessels delivers a premium imaging product to locate and derisk your prospect.

## Better Image Quality

Dual-sensors combined with towing the streamers deep, 3D spread control, source steering, continuous recording and the ability to tow dense streamer spreads, all contribute to subsurface images of greater clarity, accuracy and reliability.



### Dual Sensors

- Wavefield separation
- Better signal, less noise
- Tow depth independent
- True broadband



### 3D SpreadControl

- Infill management
- Efficient deployment & recovery
- Improved 4D repeatability



### Dense Spreads

- Better receiver sampling
- Increased 3D/4D resolution
- Improved 4D repeatability

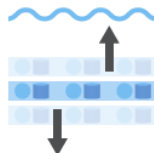
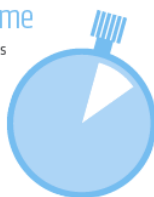


### Source Steering

- Infill management
- Efficient deployment & recovery
- Improved 4D repeatability

## Reduced Survey Time

Faster turnaround time means less exposure to weather and faster access to data. We minimize the time it takes to complete a survey using 3D spread control, source steering, continuous recording, flexible tow depth and barnacle mitigation.



### Flexible Tow Depth

- Less weather impact
- Minimum drag, maximum efficiency
- Survey compatibility
- Increased 4D resolution

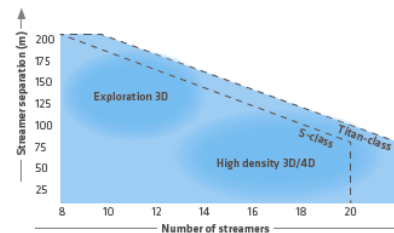


### Continuous Recording

- Improved source sampling
- Increased vessel speed
- Flexible record length

## Survey Versatility

Our fleet is capable of covering all the bases from highly efficient exploration surveys to detailed 4D production seismic.



## Define Challenge and Select Technology

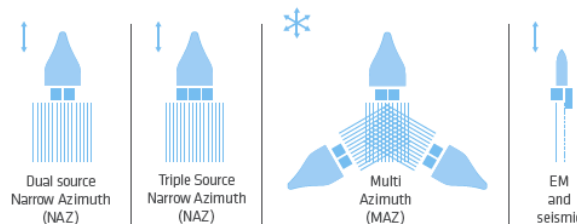
Tailored acquisition geometries make it easier to solve imaging challenges. Subsurface complexity and geophysical objectives determine the acquisition and imaging solutions to produce the best quality images in the most effective way.

## Coverage Options

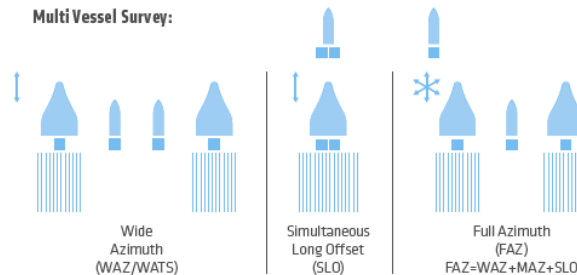
From single sail line to the ultimate full azimuth coverage. Target illumination increases with each additional pass and direction.



### Single Vessel Survey:



### Multi Vessel Survey:

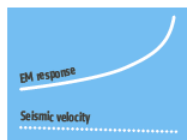


## Leading the Industry



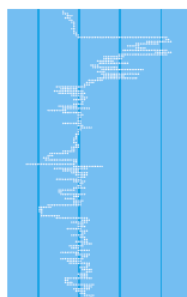
# TOWED STREAMER EM

## Reducing drilling risk



EM + seismic = reduced risk

Improved hydrocarbon saturation estimates.



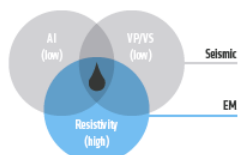
### Resistivity

Hydrocarbon saturated rocks are typically highly resistive. Geologists access local resistivity data from well logs.



### Sight & sound

Complementary data add new layers of comprehension: a bit like adding sight to sound. While seismic is the best measure of lithology, EM is more sensitive to changes in fluids.

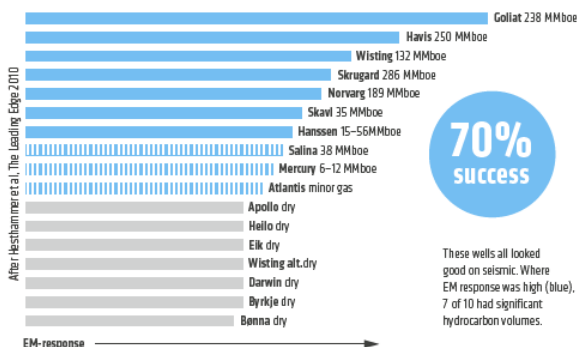


### Independent inversions

Seismic data can be inverted for velocity and for acoustic impedance. Inversion of EM data provides resistivity. Correlating all three improves drilling success.

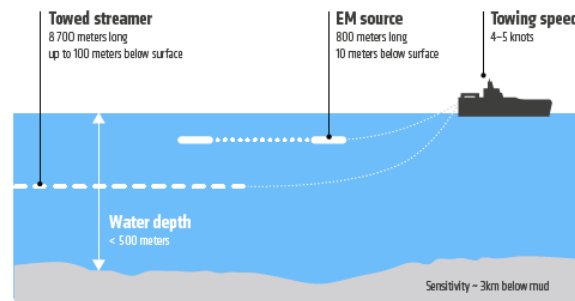
## Drilling success with EM

### Barents Sea



## Operational 101

Towed streamer acquisition produces high density 2D or 3D EM data fast. The operation is very similar to seismic, making it easy to install, operate and even combine.



### Fast

Acquisition speed up to 200 sq. or line km EM data / day



### Flexible

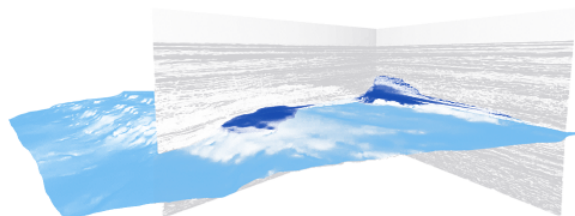
Multipurpose EM can de-risk frontier prospects, reveal drilling hazards, or identify missed tail end production.



### Global

Northern Europe is the region with greatest EM coverage so far, but feasibility studies around the world show this technology has global potential.

## Adding EM to seismic



### How and when

Improve ranking of prospects by adding 2D or 3D EM data to existing seismic data. Enhance EM resolution by using the seismic to guide the EM inversion.

Acquire EM and 2D GeoStreamer data efficiently and simultaneously with the same vessel to plan new 3D seismic.

## HSEQ



### Health

PGS' high standards apply.



### Safety

Standard PGS towed streamer operations and equipment reduces risk.

EM helps identify shallow gas drilling hazards.



### Environment

Low environmental impact.

Fewer vessel days = lower emissions in both stand-alone and simultaneous acquisition modes.



### Quality

Towed streamer EM produces high density data and permits onboard QC and processing.

