6. Seabed Geosolutions plan

By Stephan Midenet
We have a path to profitable growth in Seabed Geosolutions

1. Capture the upturn in Offshore Oil & Gas
2. Focus on value-driven innovation
3. Gradually add capacity
4. Back to ROCE >10%
**Seabed introduction – key facts**

**History**
- **2013** Formed out of 2 OBS pioneers
- **33,000+ km²** of 3D/4D OBS projects executed
- **9001:2015** ISO Quality Certification
- **218** permanent employees
- **26** countries worked in

**Oil & Gas customer base**

<table>
<thead>
<tr>
<th>Major</th>
<th>NOCS</th>
<th>IOCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>bp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
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</tr>
<tr>
<td>ExxonMobil</td>
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<tr>
<td>ConocoPhillips</td>
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<td>Chevron</td>
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<td>PetroChina</td>
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<td>Petrobras</td>
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<td>ENI</td>
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<tr>
<td>PEMEX</td>
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</tr>
</tbody>
</table>

**Seabed financials**

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue (X EUR million)</th>
<th>EBIT (excl. exceptional items X EUR million)</th>
<th>EBIT margin (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>344</td>
<td>23</td>
<td>7%</td>
</tr>
<tr>
<td>2016</td>
<td>173</td>
<td>17</td>
<td>10%</td>
</tr>
<tr>
<td>2017</td>
<td>74</td>
<td>-12</td>
<td>-16%</td>
</tr>
<tr>
<td>2018</td>
<td></td>
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</tr>
</tbody>
</table>

*YTD Sep*
We have a path to profitable growth in Seabed Geosolutions

1. Capture the upturn in Offshore Oil & Gas

2. Focus on value-driven innovation

3. Gradually add capacity

4. Back to ROCE >10%
OBS is the next generation seismic, addressing the growing demand for high quality data.

<table>
<thead>
<tr>
<th>Maturity</th>
<th>1960</th>
<th>Today</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seismic acquisition technology</td>
<td>2D streamer</td>
<td>3D streamer</td>
</tr>
<tr>
<td>Continued trend towards higher resolution</td>
<td>![Image 1]</td>
<td>![Image 2]</td>
</tr>
</tbody>
</table>
OBS market expected to grow sharply, after a few years of downturn

### OBS market drivers

1. Higher data quality combined with efficiency gains
2. Focus on Improved Oil Recovery (IOR)
3. Widening application (e.g. Multiclient)

### OBS market

<table>
<thead>
<tr>
<th>Year</th>
<th>Exploration</th>
<th>New Discoveries</th>
<th>New Fields</th>
<th>Reshoots</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>1,510</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>1,090</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2016</td>
<td>760</td>
<td></td>
<td></td>
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<tr>
<td>2017</td>
<td>510</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2018</td>
<td>1,020</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>1,240</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>1,650</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>2,020</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>2,350</td>
<td></td>
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</tr>
</tbody>
</table>

1. Historical and projected revenues on a given year measured by start date
   Source: Rystad June 2018
We are well positioned to capture the upturn

- **Technology focus**
  - Strong technology portfolio, beyond just the node

- **Operational track record and expertise**
  - Pioneer in OBS with over 33,000 km² of seismic data acquired

- **Covering full spectrum of OBS technologies**
  - From Shallow to Ultra Deep Water, with adapted deployment and source methodologies

- **Global reach**
  - Extensive global experience with local presence, directly or through legacy companies

- **Strong support organisation**
  - Strong support organisation preserved through downturn complemented with strategic partnerships
Consolidation happening in a growing market, with potential benefits for all players

<table>
<thead>
<tr>
<th>Description</th>
<th>Pioneer within the OBS industry</th>
<th>Market leader. Global provider of Seismic nodal technology</th>
<th>Market entry strategy – No proprietary technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pure-play OBS</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Estimated asset base in 2019</td>
<td>~10,000 nodes 3-4 crews Converging towards 1 technology (Manta®)</td>
<td>~35,000 nodes 6+ crews 2 nodes technologies</td>
<td>~30,000 nodes 4+ crews 3 technologies</td>
</tr>
<tr>
<td>Capabilities</td>
<td>OBN-ROV¹</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>NOAW²</td>
<td>~</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>SW³</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Operational focus</td>
<td>Global reach, across all segments</td>
<td>Global reach, outside shallow water</td>
<td>Global reach in shallow and intermediate water depths</td>
</tr>
</tbody>
</table>

Potential benefits

- Improved pricing environment
- More rational capacity growth
- Efficiency differentiation opportunity for Manta

¹ OBN-ROV is Ocean Bottom Nodes deployed with ROV; ² NOAW is Nodes On A Wire; ³ SW is Shallow Water
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3. Gradually add capacity
4. Back to ROCE >10%
Efficiency gain was the key driver for 3D streamer historic market growth: OBS is next

Efficiency improved through technology development

Leading to a significant cost reduction

And subsequent market growth

5x more streamers per vessel...

80% cost reduction

x 2.6

5x

Improved technology

Progress

Improved deployment efficiency

Lower construction CAPEX

Historic

Target

Progress

Historic

Target

...Leading to an expected sharp cost reduction

Towed streamer market

OBS

Cost (kUSD/km²)

Revenue (X USD million)

Source: Rystad market study dated 11/6/18, PGS, Internal analysis
Efficiency gain was the key driver for 3D streamer historic market growth: OBS is next

Efficiency improved through technology development

Leading to a significant cost reduction

And subsequent market growth

3D streamer market

OBS market

5x more streamers per vessel...

Improvement in technology

Improved deployment efficiency

Lower construction CAPEX

Progress

Historic          Target

Historic          Target

...Leading to an expected sharp cost reduction

Cost (kUSD/km²)

Potential market share expansion

Revenue (X USD million)

Source: Rystad market study dated 11/6/18, PGS, Internal analysis
Our innovation efforts position us at the forefront of this efficiency race.

Delivering sustainably lower cost per km² by increasing productivity and reducing cost.

Receiver technology development:
- Nodes: Decrease costs, Standardisation
- Deployment: Automation, Efficiency, Modular
- AUV: The Next Efficiency Step

Source technology development:
- Modular source: Cost savings, Reliability
- Sim source technology: Productivity, Cost-efficiency
- Next generation: Productivity, Improved data quality, WIP

Mature developments

Next
Manta® nodes provide one efficient technology to address the full OBS market

Manta® node system
We continue to innovate and partner with key customers to develop the next paradigm in operational OBS efficiency.

SpiceRack®: preparing a sustainable future through innovative award winning technologies.
We have a path to profitable growth in Seabed Geosolutions

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We are investing in more efficient Manta nodes and systems, gradually adding capacity.

**2015**

- **Cables technologies**
- **Over 20,000 receivers available**
- **CASE Abyss node**
  - 1 m x 1 m / 165 kg
  - 1,200 nodes available

**Market split**
- **56% Cables**
- **44% Nodes**

**Seabed revenue split**
- **78% Cables**
- **22% Nodes**

**Market split**

**Seabed revenue split**
We are investing in more efficient Manta nodes and systems, gradually adding capacity.

**Today**

- **Cables technologies**
  - 10,000 receivers available

- **Manta® nodes**
  - 35 cm x 35 cm/20.5 kg
  - 4,500 nodes available
  - Adding 4,500 nodes in 2019

- **Continue to operate 1,200 CASE Abyss nodes**

**Market split**
- Cables: 14%
- Nodes: 86%

**Seabed revenue split**
- Cables: 10%
- Nodes: 90%
We are investing in more efficient Manta nodes and systems, gradually adding capacity.

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>Today</th>
<th>2020</th>
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<tbody>
<tr>
<td>Shallow Water</td>
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<tr>
<td>Deep Water</td>
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<tr>
<td>Intermediate Water</td>
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<tr>
<td>Market split</td>
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</tr>
<tr>
<td>Nodes</td>
<td>44%</td>
<td>86%</td>
<td>90%</td>
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<tr>
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<td>56%</td>
<td>14%</td>
<td>10%</td>
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<td>Seabed revenue split</td>
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<td>14%</td>
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</tr>
<tr>
<td>Nodes</td>
<td>44%</td>
<td>86%</td>
<td>90%</td>
</tr>
</tbody>
</table>
We have designed and operate a cost effective, modular and asset-light model

- Pioneer in cost effective, modular and asset-light model:
  - Covering both ROV and NOAW modes
  - Optimized for Manta but compatible with other nodes

- Delivering:
  - Flexibility through the use of vessels of opportunity, mitigating vessel idleness risks
  - Best-in-class deployment efficiency
  - Cost-effective solution reducing mobilization and daily costs

- Asset light philosophy aims at avoiding repeating the “streamer story”
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Seabed Geosolutions – financial outlook for 2021-2023

Key drivers for margin improvement to achieve low-end of EBIT range

<table>
<thead>
<tr>
<th>Driver</th>
<th>EBIT margin impact (percentage points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>Annually: +3-4, By 2021: +9-10</td>
</tr>
<tr>
<td>Price</td>
<td>Annually: +2-3, By 2021: +7-8</td>
</tr>
<tr>
<td>Productivity</td>
<td>Annually: +1-2, By 2021: +4-5</td>
</tr>
<tr>
<td>Cost inflation</td>
<td>Annually: -1-2, By 2021: -4-5</td>
</tr>
</tbody>
</table>

Mid-term target 2021-2023
- EBIT margin of 8-12%
- ROCE >10%

1. Comparable revenue growth
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