Evolution towards more cost efficient developments

- Crucial for economic development of marginal fields
- Extensive network of central processing platforms enables a growing number of satellites
- One major operator observed that their platform costs are typically halved with each new generation of design
- Satellites becoming cheaper as a result of reduced functionality and flexibility

Example of latest generation satellite
Unmanned minimum facility platforms S6-B (Wintershall, 2014):
- 35 m water depth
- No helideck – marine access only
- No crane – lifting beam only
- No living quarters
- No lifeboat

EBN study for low cost development
- Focus on wear and tear at increased water depth of 65 meters
- Design life 25 years

CONCEPTS

<table>
<thead>
<tr>
<th>Concept</th>
<th>Stand-alone</th>
<th>Shear leg / lifting vessel</th>
<th>Piled jacket</th>
<th>Hydrogen</th>
<th>Expandable re-locatable</th>
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<td>Jacket</td>
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<td>Jacket with suction buckets</td>
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<td>Tripod with suction buckets</td>
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50% PLATFORM COST REDUCTION
- Concepts are feasible
- Potential CAPEX saving of some 50% vs. traditional satellite platforms

REMARK
- Several operators and engineering companies are actively pursuing more cost efficient satellite platforms to be installed in the near future

Study results encouraging for shallow gas developments
- A recent study showed that the number of economic shallow leads and prospects doubles with 50% cost reduction
- Number of economic projects increases even further with cluster developments

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