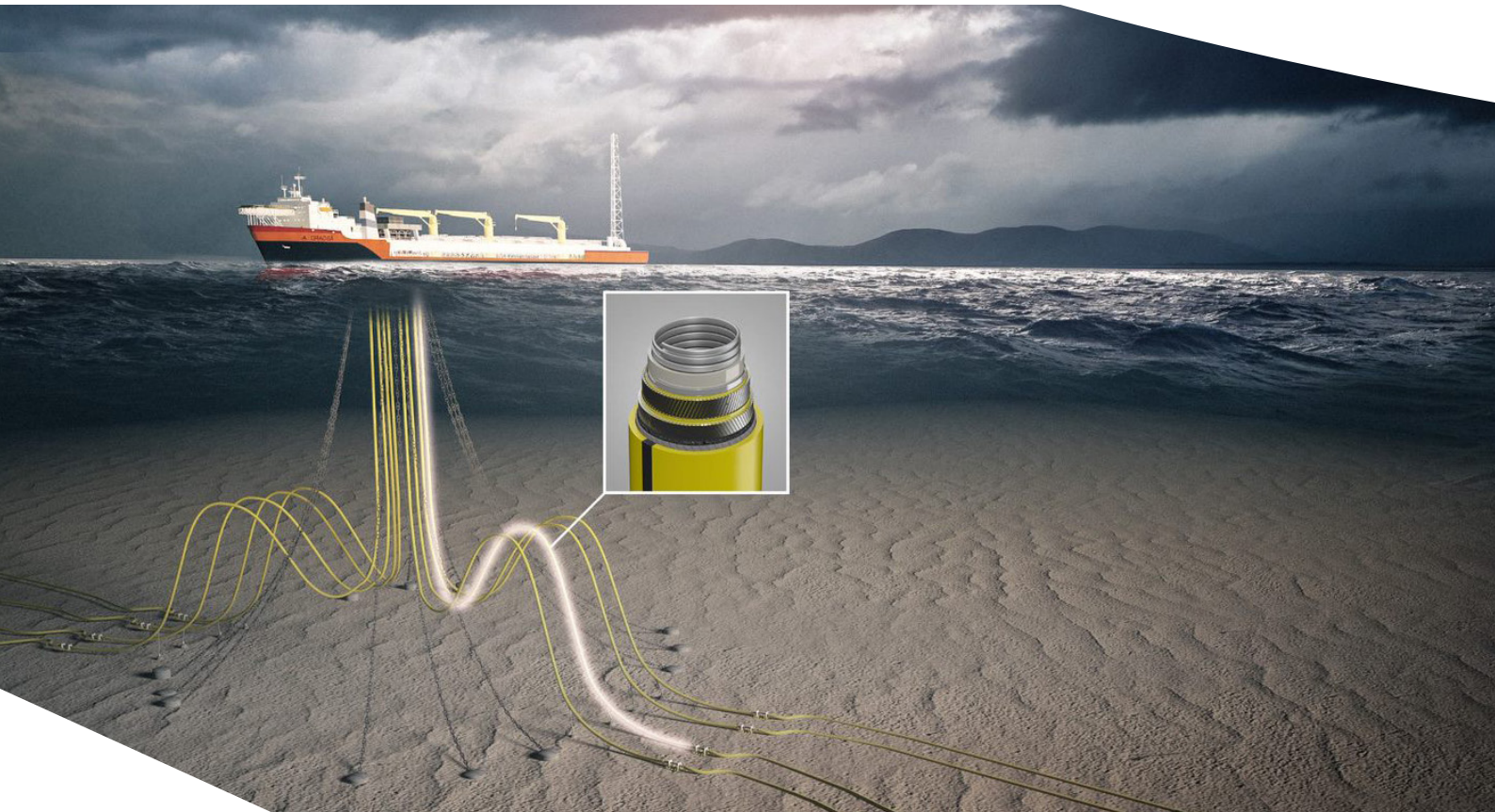


Integrity Management - Flexible Pipes

Safe and cost efficient operation of flexible pipes



4Subsea provides dedicated high-level expertise helping our clients achieve reliable and efficient operation of flexible pipelines. Our goal is to enable full service life with acceptable risk management strategies, and safe and cost effective operation without any incidents or shutdown.

4Subsea offers products, services, and software related to flexible pipes, umbilicals, and ancillaries used for subsea operations, including **Integrity Management on 4insight®**, **Annulus Vent Gas Monitoring (AMOS™)**, **Portable Annulus Tester (PAT™)**, **Repair Clamps (EPIC™)**, **ValveTrack**, and **FlexShare™**. We also specialise in **Advanced Engineering** and **Research** for flexible pipes.

KEY DELIVERABLES

- Advanced Integrity Management strategies and support
- A comprehensive, cost effective service package
- Both offshore and onshore services
- Concept to end-of-life range of service
- Digitised solution with online Integrity Management portal



Integrity Management

From concept level through end-of-life we provide on- and offshore services related to assessing system failure drivers and modes, associated risk level assessment and developing integrity management strategies. Furthermore, 4Subsea provides continuous integrity management support, including ITR activities, to monitor the current condition of the flexibles. An online Integrity Management portal ensures that updated information and system status are always available for the client.

Condition Monitoring

- Establishment of integrity and monitoring programs
- Evaluation of operational data
- Annulus vent gas monitoring
- Advanced PA11 ageing evaluation
- Life extension
- Failure mode investigation
- Risk assessment

Research and Development

- Failure investigation of flexible pipes
- Handbook on flexible pipes
- Joint industry projects
 - Polyamide in flexibles
 - Corrosion monitoring



Offshore Work

- Annulus volume testing
- Leak detection
- Outer sheath repair
- Re-establishment of annulus vent (topside and subsea)
- Project specific repair and monitoring solutions



Key Deliverables

- Advanced Integrity Management strategies and support
- A comprehensive, cost effective service package
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4Subsea is a leading provider of technology and services that help operators optimise energy production from subsea oil & gas fields and offshore wind farms. We combine domain expertise with data analytics and digital services to maximise lifetime of assets, reduce operational cost and optimise future projects through data-driven design.

The company was established in 2007 and clients include the major energy operators as well as the large suppliers of sub-sea equipment. 4Subsea is headquartered in Asker, Norway with additional offices in Bergen, Kristiansand, Stavanger, Rio de Janeiro, and Aberdeen. 4Subsea is a company in the Subsea 7 Group. More info at www.4subsea.com.

4Subsea - Share ideas, move forward

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