

Freespan and Jumper Monitoring

Reduced cost of ROV inspection and improved integrity



4Subsea's portfolio of autonomous subsea sensors is developed to reduce cost and improve integrity control of ageing assets. Autonomous monitoring solutions allow for continuous integrity monitoring of subsea assets, enabling increased ROV inspection intervals up to 5 years.

4Subsea helps operators reduce operational cost and maximise life of assets using autonomous sensors in combination with data analytics and specialist engineering competence. Products in the Smart Monitoring Sensors (SMS) range are **SMS Gyro™**, **SMS Vibration™**, **SMS Strain™**, **SMS Magic Hand™**, **SMS Gateway™**, **SMS Pressure™**, and **SMS Satellite™**. Technology applications include monitoring of wellhead integrity, risers, mooring lines, subsea spools and manifolds, as well as monitoring of pipelines and subsea structures.

KEY BENEFITS

- Reduces cost of ROV inspections by up to 60%
- Provides immediate alarm to shore in case of impact
- Provides immediate alarm to shore at onset of vibration
- Gives better understanding as all data is stored and used for trending



SMS Gyro™ sensor



Production Jumper Monitoring



Pipeline Freespan Monitoring

Autonomous Sensors Enable Cost Reduction

4Subsea helps operators reduce cost of operations and maximise life of assets using autonomous sensors in combination with data analytics and specialist engineering competence. 4Subsea's solution for monitoring freespans and production jumpers reduces cost of ROV inspections by up to 60%.

Alarm System Increases ROV Inspection Intervals

The solution ensures immediate alarms in case of impact or onset of vibrations. The system allows operators to increase ROV inspection intervals, knowing that if flow-induced vibrations occur or if there is a trawl impact, an alarm will go back to shore immediately. If the sensor detects impact or vibrations, a small alarm tag is released from the sensor and floats to the surface to send an alarm message via satellite.

Monitoring Solution

- Monitoring with SMS Gyro™ and SMS Vibration™
- Monitoring frequency: 10 Hz - 40 Hz
- All data stored in sensor for up to 5 years
- SMS Satellite™ is used for sending alarms
- Typical sensor dimensions:
Height: <500mm - Diameter: ≈130mm - Weight: ≈12kg
- Pressure rating: 3000m water depth
- ROV installable and retrievable
- Design life: 25 years
- Battery life: 5 years continuous operation and data storage
- Field proven concept with >100 000 hours of monitoring

Freespan monitoring. Releaser and Floater with SMS Gyro™ sensor (5-year battery pack). The Floater is released, ascends to the surface and transmits its alarm message back to shore.



4Subsea is a leading provider of technology and services that help operators maintain production from subsea oil and gas fields and offshore wind farms. By combining expert engineering competence, practical experience and a digital service, we ensure the integrity of assets all the way from reservoir to deck.

We deliver solutions on a unique digital platform, aiming to be in the forefront of digitising oil, gas and offshore wind operations worldwide. The company was established in 2007, and clients include all the major oil and gas operators as well as the large suppliers of subsea equipment.

Click [here](#) to view a short video of our solutions and offerings.

4Subsea - Share ideas, move forward

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