

SPANASSURE™

Subsea Pipeline Monitoring System



ROV installable
INTEGRIpods™



The **SPANASSURE™** pipe span vibration monitoring system is used to confirm the integrity of the pipeline spans that are suspended in water on the seabed by measuring motion of the pipeline.

The **INTEGRIpods™** can be attached to the pipeline by diver or ROV via specially designed deployment interfaces that are also ROVs or divers deployable.

The motion of the pipeline may be induced by VIV or internal fluid flow.

The monitoring system is supplied with a kit of accessories to allow users to initialize **INTEGRIpod™** and to download data from it. Special software (**INTEGRiView™**) is also supplied to allow users to view the downloaded motion data and statistical values such as RMS, average and peak-to-peak values.

SYSTEM DESCRIPTION

Along a pipeline span, a number of **INTEGRIpod™ SM** stand-alone motion data loggers are installed on the pipe at pre-determined locations.

OPTIONS

- Hardwired on-line system
- Acoustically-linked on-line system
- User specified deployment interfaces to allow subsea sensors to be attached to the pipeline

Each **INTEGRIpod™** data logger records acceleration and optionally angular rate in three dimensions. The measured data is recorded locally in the memory and is downloaded into a computer for post data processing after the **INTEGRIpod™** are retrieved from a logging campaign.

FEATURES

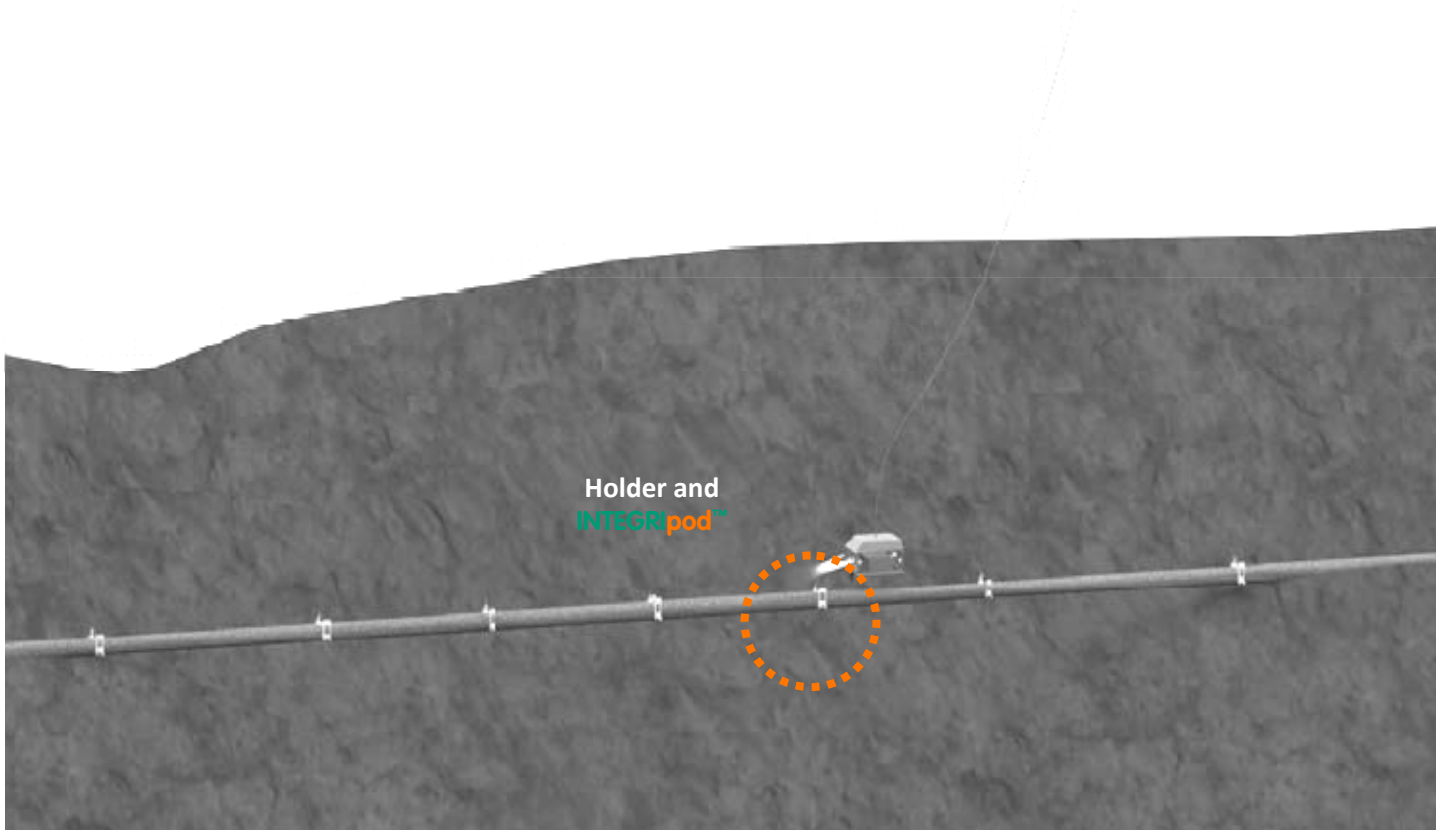
- Detect and measure vibration of pipeline spans
- Installation and retrieval by ROVs or divers
- Validates pipeline design and identifies anomalies at early stage
- Assists in optimised maintenance and inspection strategies



ROV deployable deployment interfaces on pipelines (two examples)



Screenshot of the **INTEGRiView™** software



SPECIFICATIONS

| Items | Description |
|-----------------------------|--|
| Sensors | Tri-axial accelerometer and tri-axial angular rate sensors (optional) |
| Measurement resolution | Acceleration: 2 mg RMS Inclination: 0.1 deg RMS Temperature: 0.5 °C Angular rate: 0.1 deg/s |
| ROV deployable INTEGRipod | Yes |
| INTEGRipod Logging programs | Logging period: programmable (20 min default) Logging frequency: programmable (10 Hz default) Logging cycle: programmable (4 hours default), Continuous mode available |
| INTEGRipod battery Life | 5 months for default logging |
| INTEGRipod casing dimension | 60 mm outside diameter and 330 mm length (excluding the ROV handles) |
| INTEGRipod weight | 5 kg in air, 2 kg in water |
| Holders for INTEGRipod | Tailored interface to suit client need |
| ROV deployable holders | Yes |
| Holder weight | <30 kg in air, 20 kg in water |



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