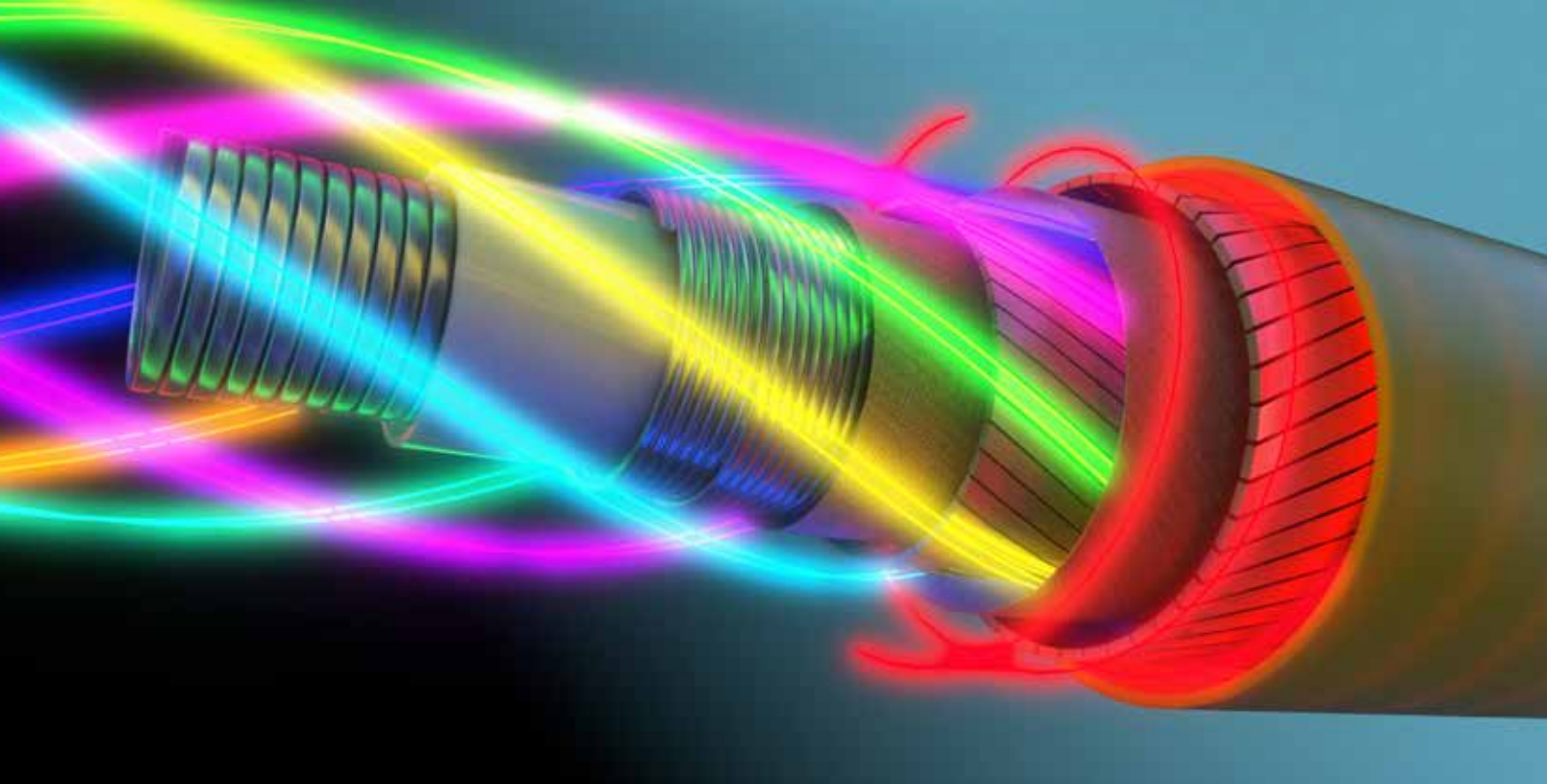


OptiFlex™

flexible pipe monitoring



Get the flexible pipe integrity data you need, when you need it, to help avoid unplanned production shutdown.

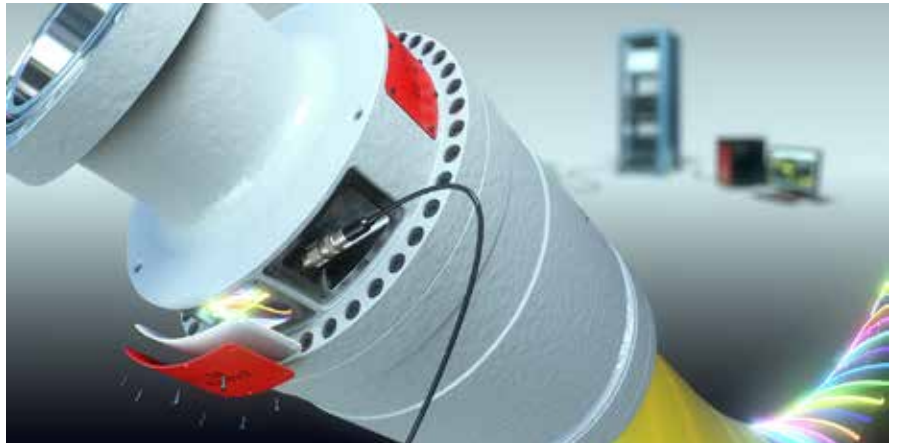
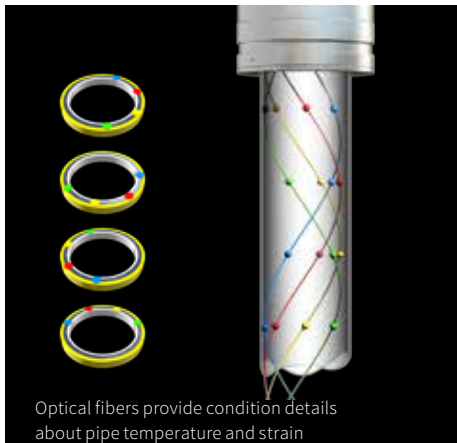
Flexibles offers the option of embedding fiber optical monitoring systems into new flexible risers thereby reducing costly maintenance or ROV inspection. The OptiFlex system enables continuous integrity monitoring along the entire riser length as well as measurement of fatigue in the upper part of the flexible riser. All measurements have time and position stamps for quick and accurate detection of unexpected changes, and data output can be adapted to individual operational needs.

Detect. Monitor. Reduce costs.

With OptiFlex you can monitor the temperature over the full length of the pipe and thereby:

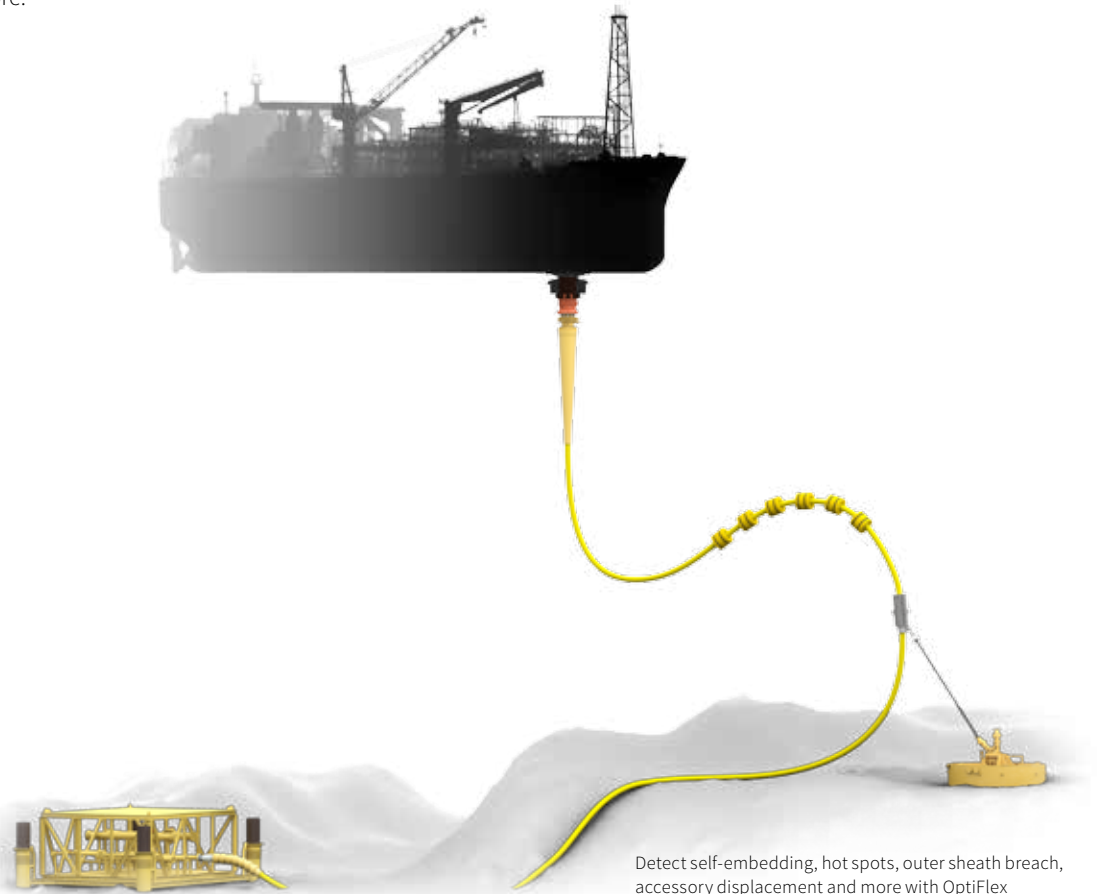
- Detect the time and position of an outer sheath breach
- Monitor the position of external mounted accessories
- Detect hot spots at accessories or buried pipe sections
- Monitor temperature during shut downs and avoid hydrate formation
- Monitor accumulated fatigue

OptiFlex™ – flexible pipe monitoring



OptiFlex is based on optical fiber sensors embedded in the flexible riser structure. The integrated monitoring technology gives you access to data from points of interest that are inaccessible with inspection equipment and sensors clamped on the outside of the pipe, e.g. within the end-fitting, inside J-tubes and under bend stiffeners.

With the embedded sensors being completely protected and with no external parts protruding from the riser, OptiFlex is the maintenance-free and easily installed response to operator needs to monitor outer sheath integrity, keep track of accessory positions, detect hot spots and much more.



Flexibles develops, produces and markets some of the strongest and most advanced flexible pipe systems in the world. Flexibles is a Group in National Oilwell Varco (NYSE:NOV) which supplies customer-focused solutions that best meet the quality, productivity, and environmental requirements of the energy industry.

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