

# Catenary Intervention

Floating vessel intervention system

## APPLICATIONS

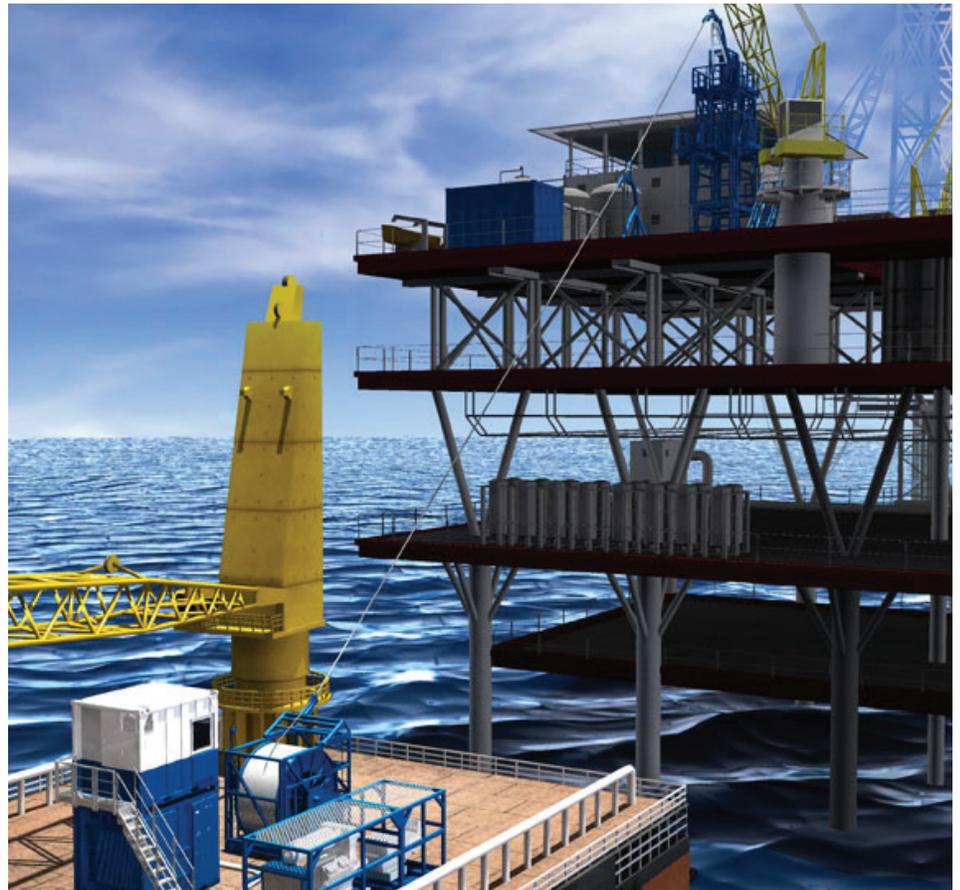
- Matrix stimulation
- Water or scale control
- Fill cleanout
- CoilTOOLS\* coiled tubing intervention tools and solutions
- Zonal isolation and reperforation
- Fracturing through CT
- CT drilling

## BENEFITS

- Reduces total intervention cost
- Increases profitability and production life
- Enables treatment of previously inaccessible wells
- Provides safer operations in adverse weather conditions

## FEATURES

- Allows access to small offshore platforms with limited deck space and loading capacity
- Reduces number of trips to port
- Enables rapid deployment and rig up
- Offers satellite and datalink capability using InterACT\* global connectivity, collaboration, and information service



*ReelCONNECT\* seamless technology for connecting multiple coiled tubing strings assembly skid.*

## A more efficient CT intervention technique

Interventions on small platforms with limited deck space and loading capacity often require the use of jackup barges, lift boats, or workover rigs. The high cost and limited availability of these offshore vessels has delayed or prevented many required interventions, leaving a number of wells nonproductive or producing below their optimal capacity.

The catenary CT intervention technique uses smaller floating vessels and proprietary safety and well-control systems that eliminate the need to lift the CT reel and the pumping equipment to the platform. The associated reduction in total intervention cost—and the ability to work on extremely small platforms—enables operators to perform interventions that increase profitability and production life.

# Catenary Intervention

## The floating vessel approach

Schlumberger has successfully used different types of small floating vessels for a number of years to perform offshore CT interventions. These vessels, which include anchored barges, dynamically positioned vessels, and standard supply boats, enable CT intervention on almost any offshore installation.

Full-scale CT operations have been performed from supply boats with deck space as limited as small as 16 × 9 m. With at least four vessel anchoring points in place, operations can be performed with wave heights up to 5 m. With a draft under 5 m, the floating CT system is an ideal solution for performing well intervention work, particularly for wells located on small-front platforms or platforms that prohibit placing CT and pumping equipment onboard.

The catenary system reduces total intervention time by approximately 25%, with less time needed for transferring equipment to platform, rigging up, and pressure testing. In addition, a shorter advance notice period is required for job preparation and mobilization.

### CT Unit Specifications

Power pack	16,000 lbm [7,258 kg] Zone II, Division I compliant
Control cabin	16,000 lbm [7,258 kg] Hydraulic or electrical over hydraulic Air conditioned 300-bhp engine
Reel	12,000–16,000 lbm [5,443–7,258 kg]
Injector skid	22,000 lbm [9,979 kg] total weight, including injector, BOPs, stripper, and accessories Injector head typical weight: 13,000 lbm [5,897 kg] Pull: 80,000–100,000 lbf [355,858–444,822 N] Snub: 40,000 lbf [177,929 N]
Data acquisition	CoilCAT* coiled tubing computer-aided treatment
Options	Soundproof engine package (85 dB at 7 m [23 ft]) Zone II compliant DNV <sup>†</sup> certification Larger reel or use of clip-in drum Larger pressure control ID Higher pressure rating (Category 2 operations)
Catenary system, power pack, and cabin	Engine-air-cooled turbo diesel Shear-and-seal device for an emergency disconnect Automatic tensioning device that compensates for wave action Video monitoring and relay of operations that occur out of the operator's line of sight Dedicated cabin with reel drive, tensioner, and levelwind controls

<sup>†</sup> Det Norske Veritas

[slb.com/CoiledTubing](http://slb.com/CoiledTubing)

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