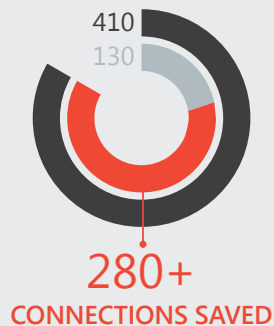
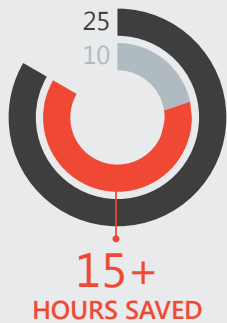
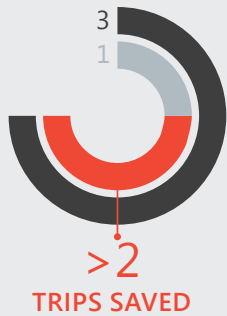
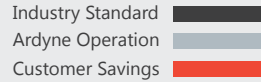


# TRIDENT™ SYSTEM - SINGLE TRIP CASING RECOVERY



Making Slot Recovery/Re-Entry, Workover and P&A faster, simpler and better

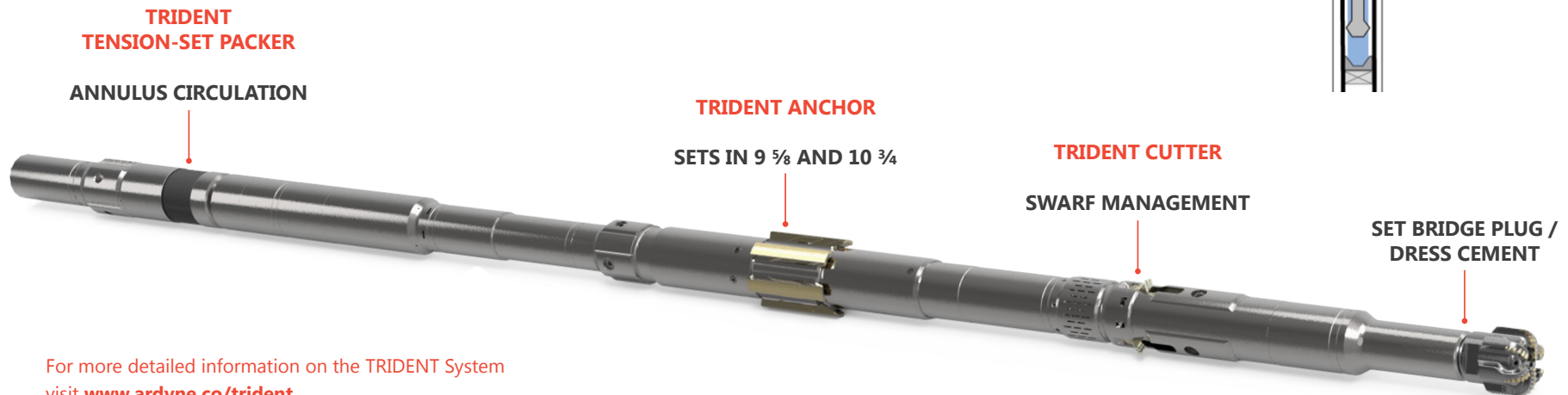
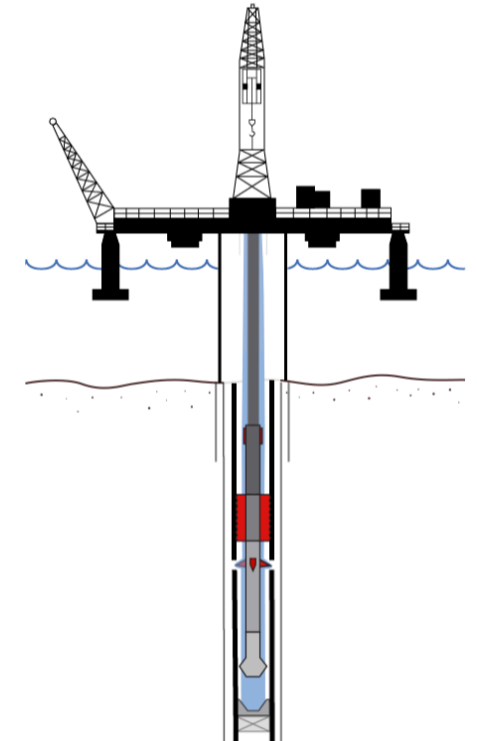


## INDUSTRY CHALLENGE

Subsea wells are aging, and increasingly require re-entry or abandonment work, where cost effectiveness is vital. Single-purpose casing cutters and spears designed for casing recovery in platform wells are not optimised for the challenges of the subsea environment, offering limited functionality and requiring multiple trips in hole. Novel multifunctional technologies are essential for cost reduction, and to enable quick, reliable and safe casing recovery operations.

## ARDYNE SOLUTION

The TRIDENT System is a rotary driven, single-trip cut and pull spear which incorporates several innovative trip-saving features, including an integral tension set packer, a hydraulically activated spear and a cutting mode which eliminates the accumulation of swarf at surface. In a single trip, the TRIDENT System can run and set a bridge plug or dress a cement plug; cut casing; circulate annular gas; and recover casing to surface.



For more detailed information on the TRIDENT System visit [www.ardyne.co/trident](http://www.ardyne.co/trident)

## Simple on the Outside, Clever on the Inside.

TRIDENT's simple methods of operation allow the rig contractor or driller, once fully trained and with remote support, to perform all operational steps, delivering improved safety and POB reduction offshore.

### FEATURES AND BENEFITS

- Cement plug dressing or mechanical bridge plug setting capability in one trip.
- Anchored centralisation delivers knife longevity for multiple cuts.
- Designed to cut in tension and verify the cut by a simple pick-up operation.
- Spear will set in 9 5/8" & 10 3/4", without having to trip to surface when used in a tapered string.
- Unique design feature eliminates swarf accumulation at surface.
- Same chassis used for 9 5/8" to 16" casing – standard procedures for all sizes.

### SAFETY AND EFFICIENCY CONSIDERATIONS

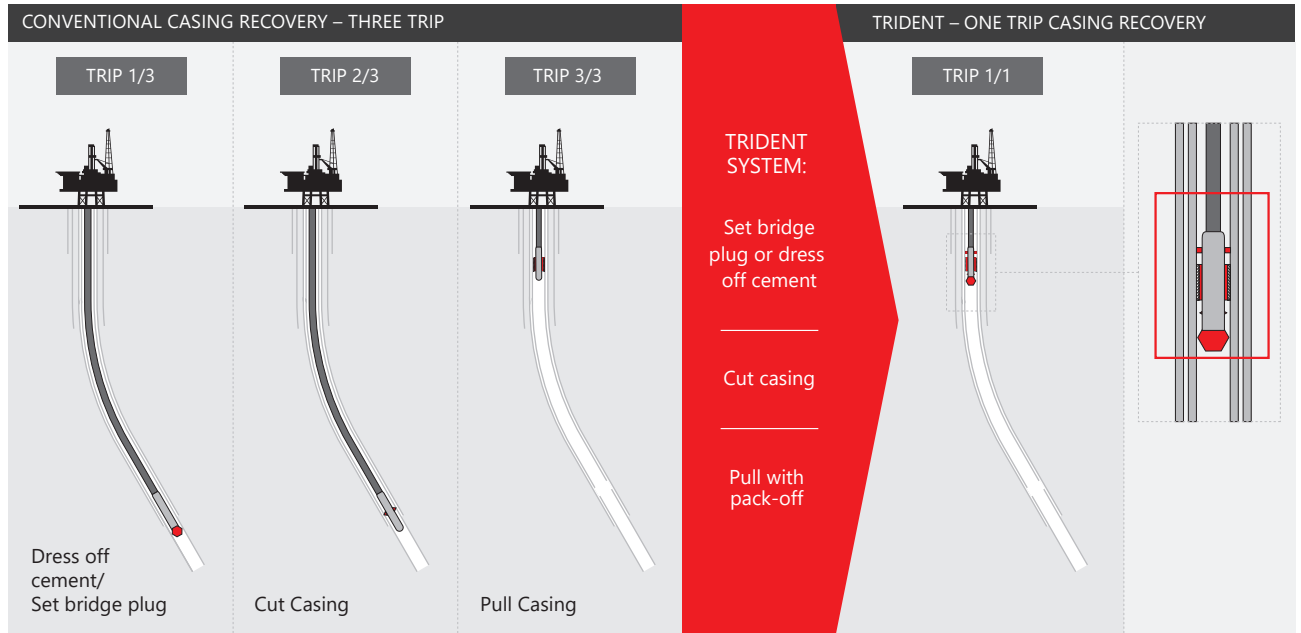
- Drill floor red-zone time limited due to single trip operational design.
- BOPs protected from steel cuttings due to built-in swarf management system.
- Ability to perform a pressure integrity test (positive & negative test) on the cement plug in the same trip.

### ARDYNE

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TRIDENT System	9 5/8"	13 3/8"
Max Tool OD	8.38" (212.8mm)	12.19" (309.7mm)
Tool Length	209.7" (5325mm)	209.7" (5325mm)
Minimum setting diameter	8.535" (53.5# 9 5/8")	12.347" (72# 13 3/8")
Maximum setting diameter	10.20" (32.75# 10 3/4")	12.77" (48# 13 3/8")
Tensile rating	1,000,000 lbf	1,000,000 lbf
Top connection	Box NC50 (4 1/2" IF)	Box NC50 (4 1/2" IF)
Bottom connection	Box 4 1/2" Reg	Box 6 5/8" Reg
Max Torque	34,032Nm (25,099 ft/lbs)	34,032Nm (25,099 ft/lbs)

### ABOUT ARDYNE

Ardyne develops and supplies specialised technology and services to the global energy industry, focusing on reducing rig time spent on downhole casing removal in Slot Recovery/Re-Entry and Plug & Abandonment operations. Technology advancement lies at the core of Ardyne, combined with decades of operational experience and responsive, client-focused delivery.