



TUBULAR RUNNING SERVICES

## Rig Integration

Delivering the right integration solution for any rig environment



**Weatherford®**

# Upgrades to your rig can result in a safer, more efficient wellsite.

Rigs equipped with pre-installed systems may not best suit your operation. Weatherford partners with you to deliver the optimal integrated solution—complete with positioning devices, power tongs, and other tubular running technologies. Together, we can devise a plan that supports safe, efficient tubular running to total depth for any rig type and environment.

## Optimize your rig design using modular equipment

Our modular and plug-and-play equipment fits into a variety of integrated combinations to suit your rig requirements. We help you determine a solution that allows for the least disruption to the current package, integrates mechanized equipment with the machinery you already have in place, and preserves valuable space on the rig floor.

## Improve efficiency with mechanized technology

We permanently install your mechanized equipment, which reduces the time required for rig-up and rig-down operations. And we offer expertise and support during equipment selection and acceptance tests to help you achieve the best performance results.

## Increase reliability with seamless equipment integration

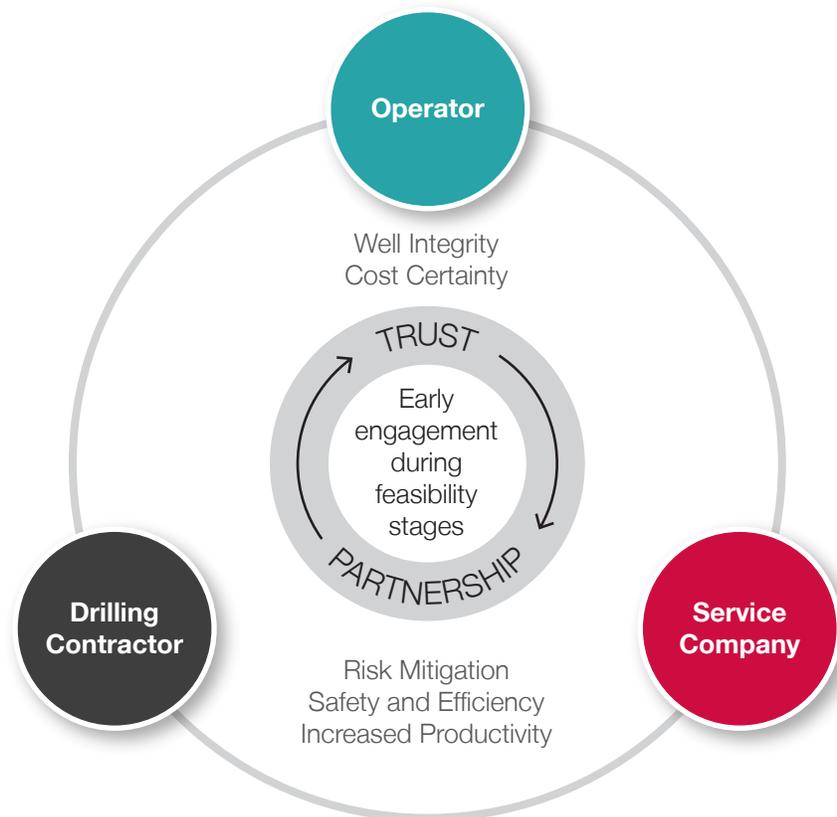
Our approach to integrated tubular services not only provides a specific tool for each individual task, but also ensures that each tool complements the others and is fully compatible with the rig drilling controls and zone management system. As a result, your rig equipment operates with dependability and without unwanted contact between pieces of equipment.

## The Weatherford rig integration advantage

- Early engagement in the rig-building phase streamlines the entire process.
- Packages include full integration for new builds or retrofit rigs.
- Mechanization of manual work enhances safety.
- Integration with existing equipment saves on space and costs.

# Build the right rig through early engagement

Collaboration is essential to project success. By engaging with the operator and the drilling contractor during the rig-building phase of a project, we can recommend and install the optimal rig equipment package to improve immediate and long-term operational outcomes.



# Integration packages—from simple to advanced

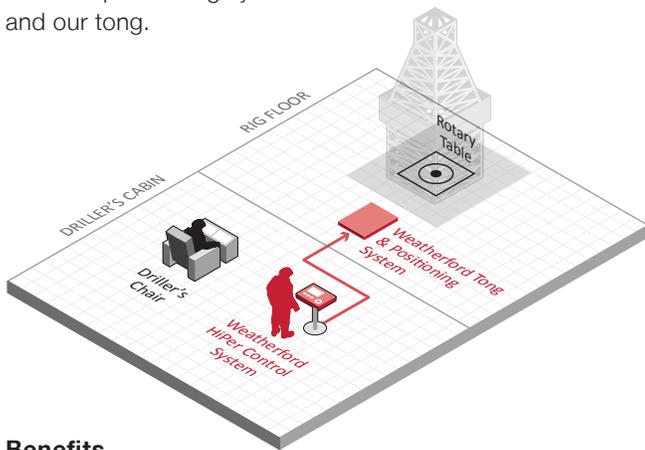
Offered at three main levels, each of our integration packages uses equipment that integrates into existing zone management and anticollision systems to prevent accidental contact of drill-floor equipment.

## Basic Integration

With control from the **Weatherford HiPer™ system**

### LEVEL 1: OPTION 1

The first basic option uses Weatherford equipment to replace the positioning system and the tong from the drilling package. Our tong-positioning system adapts to the rig to position the Weatherford power tong to well center. Operated at a safe distance, our HiPer control system and WiURCS™ wireless control panel enable remote control of both our positioning system and our tong.

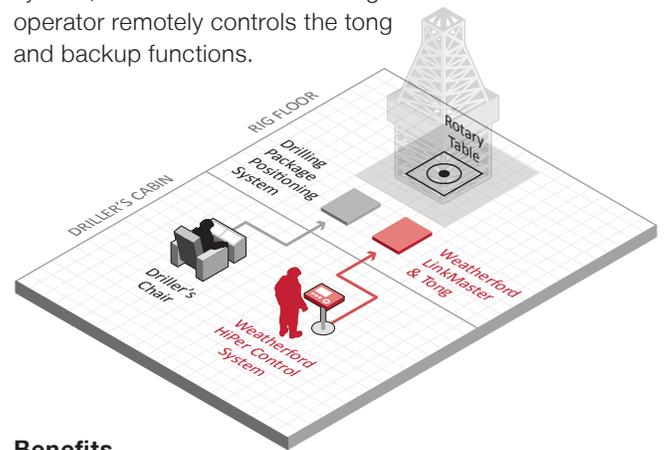


#### Benefits

- Increases reliability and competency
- Enhances connection integrity

### LEVEL 1: OPTION 2

The second basic option uses a Weatherford power tong in conjunction with the drilling package positioning device. Installed with the tong in a one-lift operation, our LinkMaster™ tong adaptor enables compatibility between our power tong and the existing positioning system. The drilling contractor maintains control of the positioning system, and the Weatherford tong operator remotely controls the tong and backup functions.



#### Benefits

- Saves valuable rig-floor space
- Minimizes costs by integrating with existing equipment
- Enhances connection integrity

## Real Results

### MALAYSIA

## INCREASED OPERATIONAL EFFICIENCY BY 31%

In two deepwater wells, Weatherford deployed a casing-running package that included a mechanized power tong, PowerFrame® tong-positioning system, and HiPer control system. The tong was installed on the existing iron roughneck tracks in one lift, which reduced rig-up time and increased efficiency by the third string run.

### NORTH SEA, UK

## DELIVERED AND INSTALLED IN 5 MONTHS

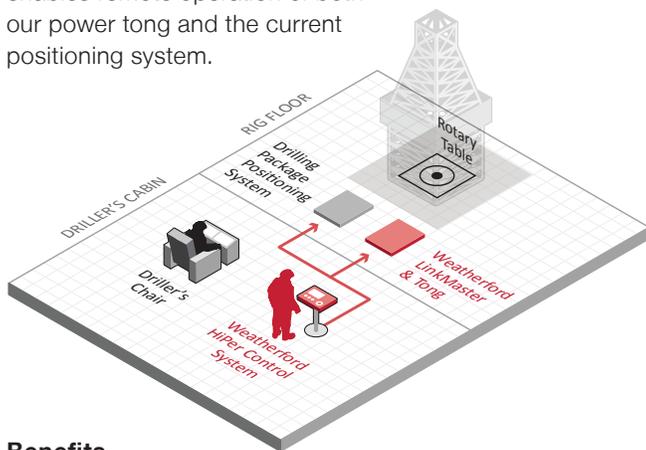
An operator requested equipment to enhance safety on a rig undergoing commissioning. Weatherford mechanized power tongs and the HiPer control system seamlessly integrated with existing systems in the desired time frame and eliminated the need for costly, custom-built solutions.

## Intermediate Integration

With total control from the **Weatherford HiPer™ system**

### LEVEL 2

The intermediate level integrates equipment already in place with new mechanized equipment—and provides operation through the Weatherford control system. A Weatherford power tong and a LinkMaster tong adaptor combine with the existing rig positioning system. Our HiPer control system with WiURCS wireless control panel enables remote operation of both our power tong and the current positioning system.



### Benefits

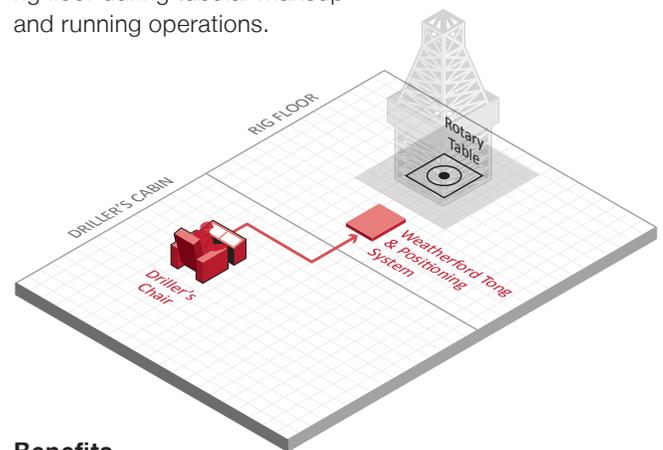
- Gives Weatherford ownership of the process
- Saves valuable rig-floor space
- Minimizes costs by integrating with existing equipment
- Increases reliability and competency
- Enhances connection integrity

## Full Integration

With total control from the **driller's console**

### LEVEL 3

The most advanced level allows for control of all Weatherford equipment, including the power tong, through the driller's chair. The positioning system—either from the drilling package or from Weatherford—can be incorporated. The mechanization and remote control in this level entirely eliminates the need for personnel on the rig floor during tubular makeup and running operations.



### Benefits

- Increases reliability and competency
- Enhances connection integrity
- Eliminates personnel from the rig floor, which provides the highest level of safety and reduces costs
- Saves valuable rig-floor space when the driller's positioning system is used
- Minimizes costs by integrating with existing equipment when the driller's positioning system is used

## GERMANY

### LOWERED INSTALLATION TIME AND COSTS

Weatherford integrated the **TorkWrench®** iron roughneck and HiPer control system into an operator's fully mechanized rig system for geothermal wells. The easy-to-install TorkWrench system helped control labor costs. Additionally, the system can remain installed during a rig move, which saves time.

## GULF OF MEXICO

### SAVED MILLIONS WITH ZERO INCIDENTS FOR MORE THAN 10 YEARS

In more than 10 years of operation, the PowerFrame tong-positioning system and the TorkWrench iron roughneck provided hands-free operation through the driller's chair. The rig recorded minimal nonproductive time and zero lost-time incidents, which represents potential savings of tens of millions of dollars.

# Our rig integration technologies



## LinkMaster™ tong adaptor

### Universal connector between any existing rig positioning system and Weatherford tong

With our LinkMaster tong adaptor, any positioning device can move a Weatherford tong to well center to run pipe. Each tong and positioning system has a specifically designed adaptor that establishes compatibility. The adaptor can be vertically adjusted to the height of the tong to efficiently run pipe of different heights and gripping areas. Both the adaptor and the tong can be remotely operated using our HiPer control system.



## Power tongs with free-floating backups

### Coordinating components that minimize pipe damage

Our power tongs have ergonomic designs for safe and efficient makeup of premium, high-torque connections. The gripping system—including patented Weatherford Micro-Grip® inserts—minimizes die marks and eliminates expensive repair costs. Our hydraulic free-floating backups allow the tong to move in unison with upper pipe when rotation is applied, which eliminates all bending and shearing moments between the tong and backup.



## HiPer™ control system with WiURCS™ panel

### Remote operation to enhance rig-floor safety

Our HiPer control system remotely controls Weatherford mechanized power tongs and tong-positioning systems. The HiPer system comprises certified explosion-proof components, a main control cabinet, and the Weatherford WiURCS wireless universal remote-control system. Using modern computer technology and data mapping, the system integrates with major drilling control systems and rig anticollision systems to avoid contact of rig-floor machinery.

## TorkDrive™ electronic modular tool

### Safer, more efficient alternative to conventional casing-running tools

Our TorkDrive electronic modular tool is a combination of a power tong, elevator, fill-up/circulation tool, and weight compensator. The tool's wireless control panel enables remote operation from the driller's cabin or anywhere on the rig floor.

## Positioning devices

### Simple, lightweight systems for hands-free tubular control

Capable of one-man operation, our positioning devices enable precise tong placement and enhance rig-floor safety. These devices eliminate manual handling and provide multiple safety cutoffs and interlocks to decrease risk exposure and injuries. Installation is quick, with only minor modifications to the rig, and tong change-out is efficient because of plug-and-play designs.

## TorkWrench™ iron roughneck

### High-torque wrenching and spinning

Used to run and trip drillpipe, the TorkWrench iron roughneck has a compact design with few moving parts that increase overall reliability and provide outstanding high-speed makeup and breakout performance.

# Integration beyond the chair

The Weatherford approach to integrated tubular services extends past the scope of the driller's chair. We offer even more technologies and services for drill-floor mechanization and pipe-deck handling that can reduce incident rates and personnel requirements.

As operators seek more ways to automate rig-floor operations during drilling and well construction, Weatherford continues its research and development efforts to deliver fully mechanized pipe-handling services that enhance safety and improve critical-path efficiency.

## Tubular Management Services

### **Streamlined tubular programs**

Our tubular management services focus on the preparation, protection, and performance of tubular connections. The goal is to help you achieve production string integrity for the lifespan of the field. Our services can enhance operations in frontier, developing plays, and mature basins, which demand continual performance improvements in safety and efficiency. We can use field-proven technologies to prepare tubulars onshore without compromising on acceptance criteria, and we can integrate offline operations into your program to greatly reduce overall tubular run times.

## Bucking units

### **Skillful connections and simplified handling**

We offer oilfield bucking units, or coupling application machines (CAM), to make up and break out tubular goods. Modular customization of the units and powerful accessories enable the skillful makeup and breakout of various tubular connections. Our bucking unit selection includes the ComCAM unit for rotational applications and the TorkWizard™ and TorkWrench units for nonrotational applications.



Nearly 60 years of experience go into our rig-floor equipment. We offer packages at different levels of complexity—from a simple installation of a tong and positioning arm to a complete integration of equipment with the driller’s console. To explore options for your needs, contact us at [weatherford.com/trs](http://weatherford.com/trs) or email [TRS@weatherford.com](mailto:TRS@weatherford.com)



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