

# Simulation Based Training



The core  
of drilling  
innovation

# Simulation-Based Training



The purpose of this phase is to allow personnel involved in the operations to become acquainted with the rig controls, functions and operational sequences. The Drillmec training centre is equipped with land rig and HH series rig simulation facilities.

## Hydraulic Rig (HH Series) Simulator Training

The course includes the use of a simulator which replicates the command console of the HH 300 systems produced from 2007 to 2013. The simulator is equipped with a DOME projection system which reproduces the operational components of the probe level and the pipe handling system in 3D. During training it will be possible to simulate the start-up of the system, of the single components and, with the use of the Human Machine Interface of the pipe handler, it is possible to go over the operational sequences of teaching, bin to bin, trip-in and trip-out sequences.

## Conventional Rig Simulator Training

The course is held using a simulator equipped with state-of-the-art Drillmec Cyber Chair installed since 2015 on all Drillmec conventional and hydraulic rigs. The hardware is composed of 3 joysticks with 4-touch-screen interfaces with which the driller can control the entire rig. The simulator is equipped with a projection system which realistically reproduces, in 3D display, the operational components of the probe level. It will be possible to simulate the start-up of the system and of each component installed and carry out their calibration, in order to go back over the operational sequence using the hardware commands and the Human Machine Interfaces. All kinds of land rig software can be uploaded into the simulator. To immerse the trainer in an almost realistic scenario, the simulator is designed to exactly reproduce the movements as if in working reality.

## Portable Simulator Training

Drillmec Rigs Portable Simulator is designed to train both operational and electrical/software maintenance teams. It is designed with a cyber control panel, reproducing exactly the rig's one, associated to four HMI control screens and one or more TV monitor for visualization. The simulator reproduces exactly the operative sequences of tripping and drilling, simulating rig controls, devices operations, HMI supervision and well response. The simulator reproduces the generators and services startup and shutdown sequences, as well as complete HMI subsystems analysis and parameters setup. All the electrical and software sequences simulates the relative starting conditions and interlocks. It's possible to create failures related to the absence of those conditions, to be able to focus on reasons and corrective actions.



### Course Specifications

HYDRAULIC RIGS SIMULATOR  
S01 - HH Series Simulator

CONVENTIONAL RIGS SIMULATOR  
S02 - Conventional Rig Simulator

PORTABLE SIMULATOR  
S03 - Portable Simulator

# HYDRAULIC RIG (HH SERIES) SIMULATOR



## COURSE TOPICS

7 days

- HARDWARE AND SOFTWARE CONTROL EXPLANATION
  - Control's lay-out description
  - Control's functioning explanation
  - Explanation of HMI's pages contents
  - Navigate around all the HMI pages
  - Setting of main parameters on HMI
- RIG START-UP
  - Check list before start-up
  - Start-up procedure
  - Alarms reset procedure
- TRIPPING OPERATIONS
  - Taking pipe from mouse hole
  - Pipes connection exercises (Trip in/out)
  - Use of power tong/torque wrench
  - Use of top drive
- DRILLING OPERATIONS
  - Practice on components used in drilling
  - HMI explanation
  - Use of auto-driller
  - Anti-collision settings
  - Setting drilling parameters
  - Troubleshooting
- PIPE HANDLING SYSTEM
  - HMI and controls explanation
  - Operative sequences
  - Use of pipe handling system in auto, remote or manual mode
  - Bin Teaching
- CASING OPERATIONS
  - Use and setting of casing make-up device
  - Handling casing
- RIG SHUT-DOWN
  - Shut-down procedure

## DURATION

7 DAYS

## LANGUAGES

ENGLISH, ITALIAN OR ANY OTHER LANGUAGE UPON CLIENT' REQUEST \*

## LOCATION

GARIGA DI PODENZANO (PC) - ITALY

## AUDIENCE

DRILLERS / ASSISTANT DRILLERS  
RIG SUPERVISORS / TOOLPUSHERS

## PRECONDITIONS

DRILLING AND MAINTENANCE  
EXPERIENCE PREFERED

## LEARNING OBJECTIVES

TO KNOWLEDGE OF INSTRUMENTATION OF DRILLER CONTROL CABIN, CONTROLS AND HMI (HUMANE MACHINE INTERFACES)  
TO REVISION OF OPERATIVE SEQUENCES  
TO UNDERSTAND THE PROCEDURE TO START-UP RIG AFTER BLACK-OUT  
TO DETECTION OF ALARMS AND WARNING ON THE SYSTEM  
TO REVISION OF SAFETY AND ANTI-COLLISION SYSTEMS  
TO PRACTICE ON MAKING CONNECTIONS, TRIP-IN AND TRIP-OUT OPERATIONS AND RUNNING CASING

## FEES

DRILLMEC SPA (ITALY):  
DAILY RATE: € 1.120,00  
TRAINEE DAY RATE: € 350,00  
(FROM 5 TO 10 TRAINEES)

## NOTES

\* TRANSLATION COSTS NOT INCLUDED

# CONVENTIONAL RIG SIMULATOR



## COURSE TOPICS

7 days

- HARDWARE AND SOFTWARE CONTROL EXPLANATIONS
  - Control's lay-out description
  - Control's functioning explanation
  - Explanation of HMI's pages contents
  - Navigate around all the HMI pages
  - Setting of main parameters on HMI
- RIG START-UP
  - Check list before start-up
  - Start-up procedure
  - Alarm reset procedure
- TRIPPING (SINGLE JOIN OR TRIPLE STAND) OPERATIONS
  - Taking pipe from mouse hole
  - Taking stand of pipe from racking board
  - Pipes connection exercises (Trip in/out)
  - Use of power tong
- DRILLING OPERATIONS
  - Use of auto driller
  - Anti-collision calibration
  - Setting of drilling parameters
  - Use of top drive
  - Troubleshooting
- SETTING OF RIG'S DEVICES INSTALLED
  - Setting from HMI the main working parameters
- RIG SHUT-DOWN
  - Shut-down procedure

## DURATION

7 DAYS

## LANGUAGES

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## LOCATION

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## AUDIENCE

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## PRECONDITIONS

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## LEARNING OBJECTIVES

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TO REVISION OF OPERATIVE SEQUENCES  
TO UNDERSTAND THE PROCEDURE TO START-UP RIG AFTER BLACK-OUT  
TO DETECTION OF ALARMS AND WARNING ON THE SYSTEM  
TO REVISION OF SAFETY AND ANTI-COLLISION SYSTEMS  
TO PRACTICE ON MAKING CONNECTIONS, TRIP-IN AND TRIP-OUT OPERATIONS

## FEES

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## NOTES

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For further information...

If you would like further information about our company, products or services, please don't hesitate to get in touch with us. You can do this in a number of ways...

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## BRANCHES



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