

Pipe Handling Equipment & Automation



JELEC

**INNOVATION AND TECHNOLOGY
DRIVING SIMPLICITY AND EFFICIENCY**

ADEOS - Advanced Drilling Efficiency Optimization

Pipe Handling Equipment & A

Pipe Handling

The purpose of the pipe handling system is mainly to move operators away from risk areas and secondly to guarantee a safer environment by automating repetitive, strenuous and dangerous tasks.

BRIDGE / PIPE RACKER

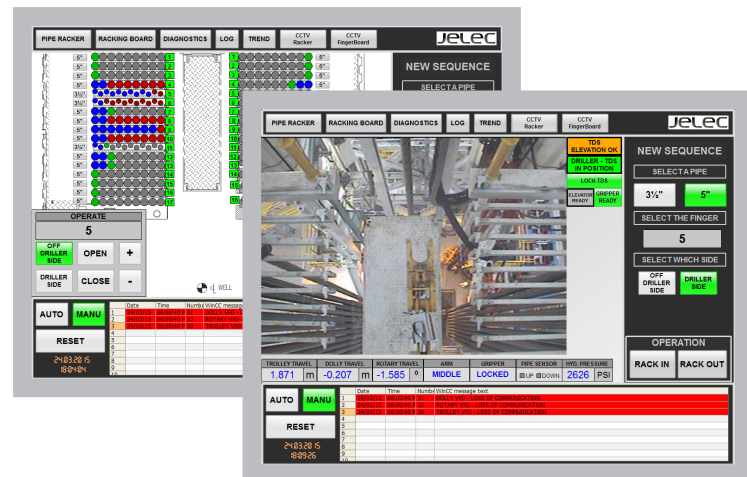
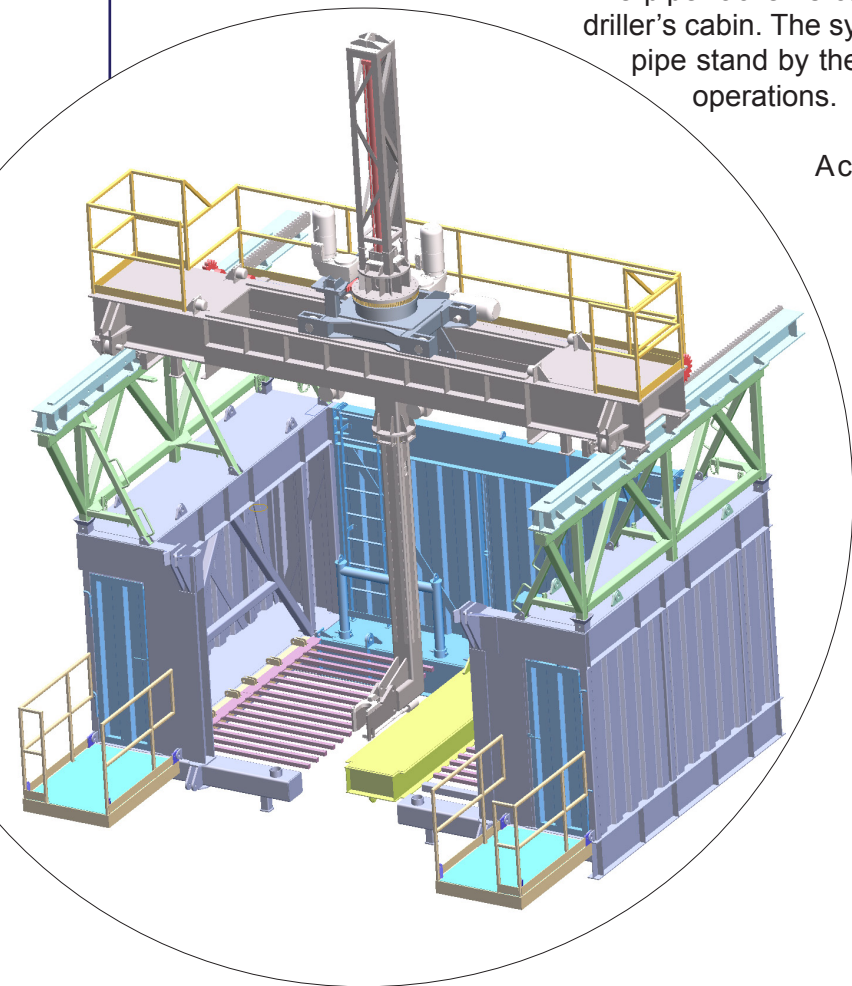
Our bridge / pipe racker is based on an electrical design that allows more accurate control, independent of environmental conditions. The overall design is safer and cleaner than its hydraulic counterpart. The system is available stand-alone or as part of a Jelec turn-key land rig solution.

The pipe racker is capable of manual or fully automated operations from the driller's cabin. The system is capable of a complete retrieval / storage of a drill pipe stand by the time the top drive has made a cycle during the tripping operations.

A conversion to a hydraulic design is also available by request.

FINGER BOARD

We design our own control latches for the racking board fingers in-house to guarantee full retention of the pipes. The racking board fingers are fully instrumented by redundant sensors, preventing any collisions between the latches and pipes being gripped by the pipe handler. The racking board includes a fingerboard management system monitoring the pipe storage with a link to the pipe tally system.



Automation

Operator Station

We offer a range of operator control stations to meet your operating procedures and requirements.

CYBER CHAIR

Where a control room and space is available, our cyber chair provides a state-of-the-art operating environment for the operator. The chair has dedicated screens related to the pipe handling, rig equipment status, CCTV, talkback system and PAGA. The cyber chair position is fully adjustable and provides the best working position for any operator.

STAND UP CONSOLE

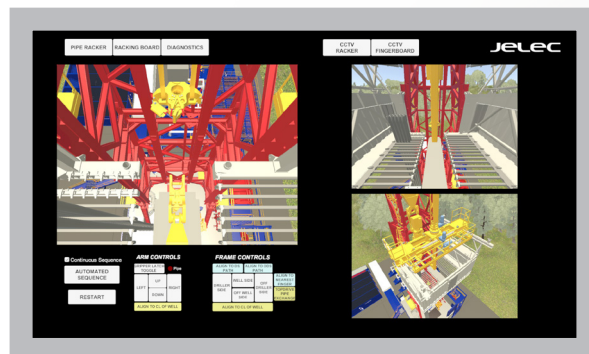
Where space is limited, a stand up console can be installed for the operator. Our stand up console features a set of manual controls, integrated equipment control, CCTV and a telephone for communication.

WIRELESS

When operation from anywhere on the drill floor and pipe deck is needed, an integrated wireless unit can be provided for a mobile operator. Our wireless unit offers joystick controls as well as a monitoring screen enabling automatic control and display of status and diagnostic data.

LOCAL

Local control is provided with hydraulic levers and VFD keypads. This is not the intended means of controlling the equipment but it allows maintenance personnel to operate and test the equipment locally.





Control Modes Auto / Manual

AUTOMATIC PIPE RACKING

Our pipe handling control system can rack in and rack out the pipe, with minimal interaction with personnel. Our system has built-in safety measures to stop on abnormal conditions in addition to displaying the sequence onscreen for the operator to track. Additionally, a management overview (with key plan layout) of the fingerboard is provided for ease of operation.

AUTOMATIC OFF LINE STAND BUILDING

Our system can make up or break out stands automatically. Built-in safety measures are in place to stop the system on abnormal conditions in addition to displaying the sequence onscreen for the operator to track. An interface with the pipe tally is present to update pipe and stand information.

AUTOMATIC PIPE TRANSFER

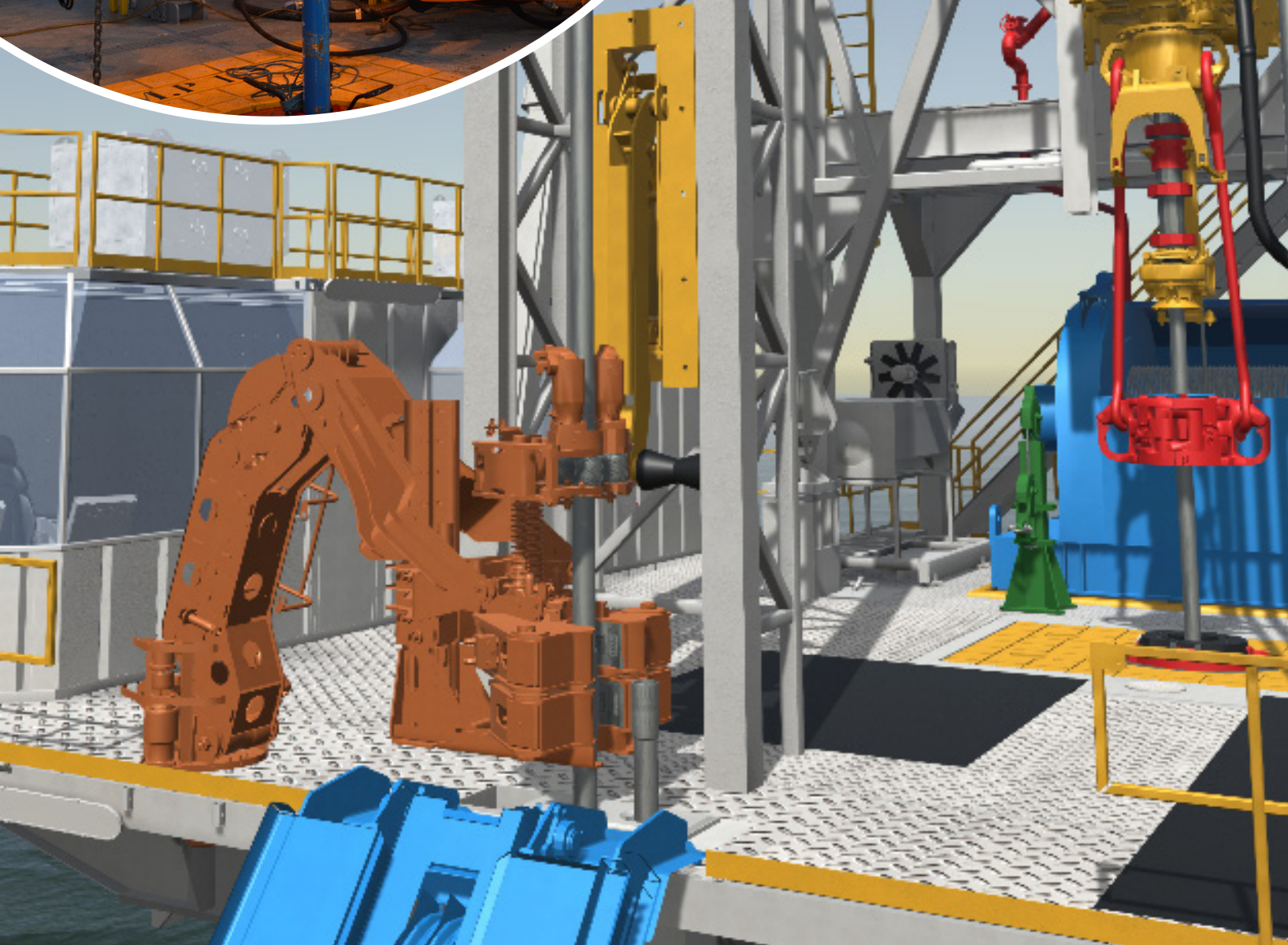
Transfer from the pipe deck to the drill floor is handled automatically.

AUTOMATIC PIPE TALLY

We developed a pipe tally system to interface with all the equipment to track the pipe from the deck to inside the hole. Various data is stored and recorded for operations, such as length, weight, pipe running hours, make up torque and break-out torque. This enables the operator to manage their drill pipe inventory and assets.

NON-AUTOMATIC MODE

A manual mode that allows full control of the equipment is available. The manual mode can be constrained (with zone management active) or unconstrained, leaving full capability of travel to the equipment. To be noted that in this mode, the acceleration and deceleration ramps as well as speed limits are adapted to the reaction time of an operator. One feature that cannot be turned off is the anti-collision system.



JELEC

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