

# NOV™ Driller's Workstation

## RISE™ technology for AMPHION™



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For over 10 years, and with more than 500 full systems deployed, our AMPHION Integrated System has provided means for managing, controlling and monitoring rig floor equipment in a safe, reliable and efficient manner. We have accomplished this thanks to our commitment to being a technology leader. The voice of our customers has shaped the specifications of our AMPHION 2.0 release along with our field experience and newly available technology. The new release delivers a leap forward in system performance that provides greater flexibility for user customization.

### Key Updates

- Integrated CCTV
- Process based screens
- Graphical User Interface
- Hardware topology



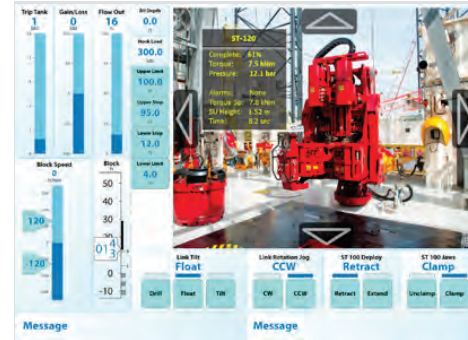
### GUI key updates:

- Storing / restoring of user profiles
- Custom operator screens
- New intuitive navigation

## AMPHION™ 2.0: brings a greater level of system performance and flexibility

### Integrated CCTV

Our new integrated CCTV provides the operator with flexibility to assign any HMI to display CCTV information. The updated system also allows full integration of CCTV feed into our screens. Our new CCTV system also enables AMPHION to integrate with smart sensing and advanced vision systems.



### Process based screens

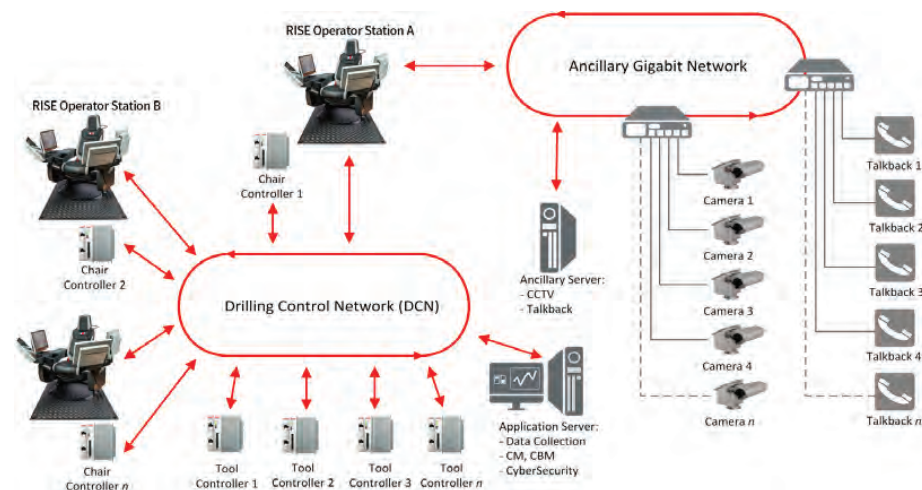
AMPHION 2.0 provides operators with specific process screens containing the necessary information for the different drilling activities. Our process screens allow the operators to efficiently supervise and control all drilling related activities. In order to increase operator's awareness and ultimately improve efficiency, a process status visualizer provides the operator with graphical information about the current and subsequent steps within a process.

### Graphical User Interface (GUI)

The new GUI has been designed to allow effective operation of the process and machines by providing the operator with a flexible and intuitive interface and navigation. The new GUI provides the operator with flexibility to create custom screens by allowing addition of new process variables and/or re-arranging values and graphics within the active screen based on user preference. Custom screens and user configurations can also be saved for later use.

### Hardware Topology

The new setup provides greater AMPHION flexibility. The topology includes an ancillary gigabit network and an application server for integration of new and advanced ancillary equipment and services, while maintaining reliable monitoring and control of drilling equipment. The redesign also uses new tool controllers with faster processing and increased capacity, providing improved data logging, greater system flexibility and increased reliability. AMPHION 2.0 also includes a system topology screen for troubleshooting networked equipment and ultimately assessing system performance.



# RISE™: elevating the industry standard

NOV introduces RISE, the only driller's workstation designed from the ground up to address ergonomic concerns, minimize fatigue, and keep your crew in top form with its industry-leading customizable operating positions. The development of RISE grew from years of ergonomic research and theory to offer your cabin crews the opportunity to work with better posture, less stress, and more focus on the job at hand. Our RISE workstation brings unprecedented chair adjustment options to custom-fit the operator's body and provide optimal comfort.

An operator's physical well-being during drilling operations significantly impacts rig crew performance.

Hazards of sitting for extended periods of time include increased discomfort and increased risk of back injuries. In order to improve the driller's well-being during operation, RISE provides a posture change ranging from any position between sitting and standing.

The RISE workstation is the premium platform for AMPHION systems.



### Key Features:

- Sitting and standing operation
- Unprecedented adjustments for optimal ergonomics
- User storable multi-angle configurable positions
- New 2-button joystick with operator feedback

RISE armrest design includes new screens, configurable buttons, encoder wheels, and an improved joystick that all together optimize the human-machine interaction during the different drilling processes. Additionally, the armrests include retractable cup holders.

Our new joystick design includes tactile feedback to enhance the operator's situational awareness and ultimately improve efficiency and safety.

Our RISE workstation supports storing and restoring users' ergonomic profiles, allowing the workstation to self-adjust to specific operator's body measurements.

RISE supports the following operator adjustments to maximize operator's comfort:

- Backrest incline/recline
- Lumbar support
- Knee support
- Grip length
- Elbow support
- Armrest pillow slide
- HMI slide & tilt
- Swivel

