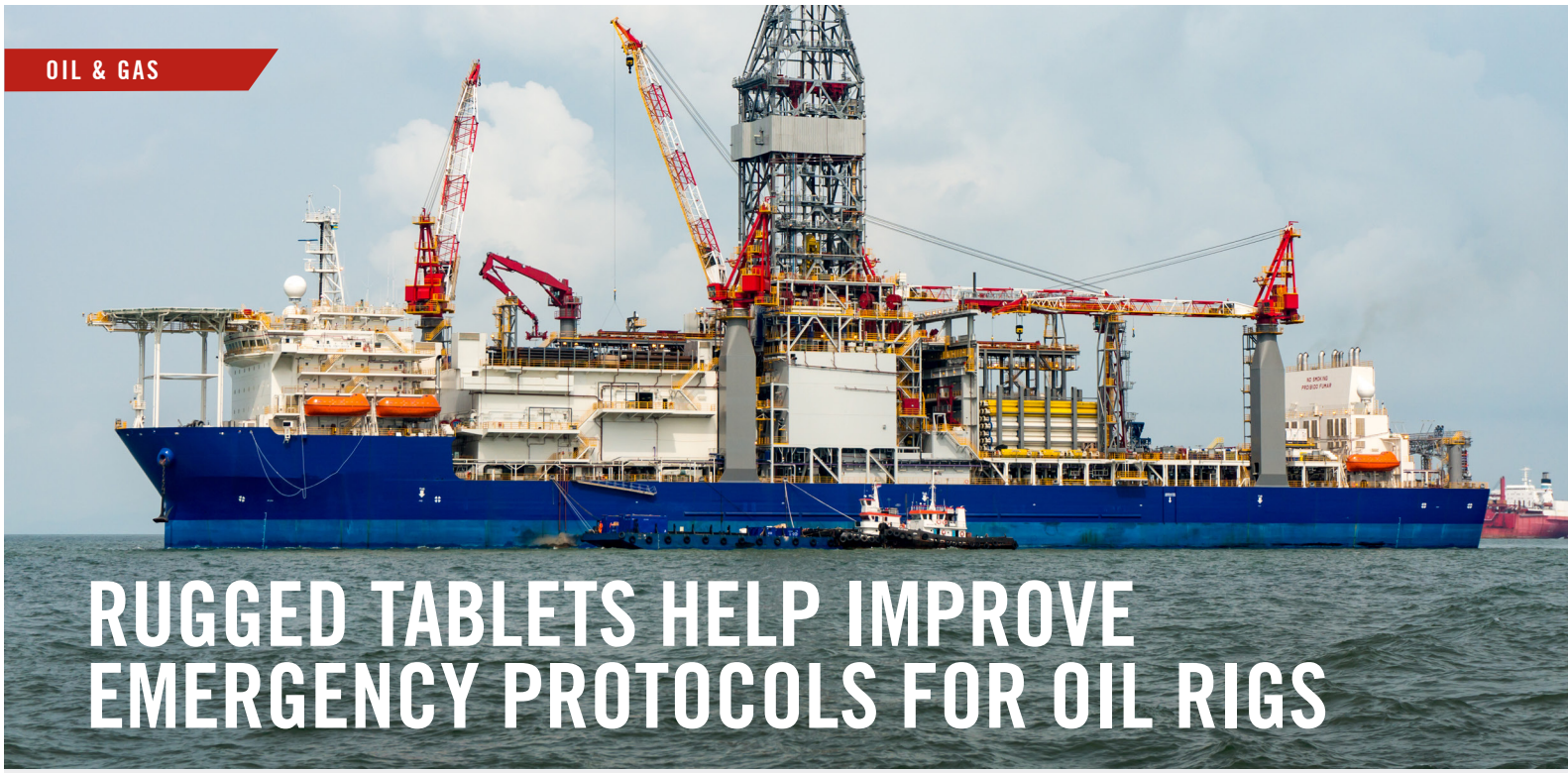
Getac

Rugged Mobile Computing Solutions

OIL & GAS



RUGGED TABLETS HELP IMPROVE EMERGENCY PROTOCOLS FOR OIL RIGS

Transocean is one of the world's largest providers of washboard drilling services in the oil and gas industry. An oil rig is a high-risk environment – where a single mistake can result in catastrophe – life safety is of the utmost importance. Accuracy and time could literally mean the difference between life and death for a large group of people working on an offshore oil rig. Obtaining an accurate muster is one of the most critical aspects of major emergency management on an oil rig.

In partnership with Savance Workplace, Getac's fully-rugged F110 helped streamline emergency muster protocols during drills and actual emergency scenarios resulting in more efficiency during an emergency or planned drill.

/ Challenges /

During an emergency aboard an oil rig, time and accuracy are imperative and can mean the difference between life and death.

Outdated technology, such as paper or phone-based mustering systems, is prone to human error and can be a time-consuming way to ensure everyone aboard the rig is accounted for during an emergency preparedness test or an actual emergency.

Transocean continually found themselves focusing on emergency muster protocols rather than the actual emergency.

Getac F110-EX
Fully Rugged Tablet

/ Emergency Scenarios /

On a vessel offshore, a variety of emergency scenarios can occur that will determine how an e-muster system should operate, and this all needs to be taken into consideration when creating a custom offshore emergency management solution. Based on the situation, such as a fire, gas leak, or explosion, the severity will determine the mustering process. Scenarios include:

Contained emergency – a situation arises, staff musters and accounted for, the situation is neutralized, and the crew returns to work.

Multiphase emergency – a situation arises, the crew follows emergency muster protocols, the situation goes from bad to worse and extra steps need to be taken to contain the emergency and a second muster takes place.

Uncontrollable emergency – at any point, the captain of the oil rig may determine that the emergency is uncontrollable and call his crew to evacuate or, as a last resort - abandon ship. At this point, each person goes to their assigned lifeboat muster point if possible or to the closest one they can safely reach. One last muster is done to ensure all crew members are accounted for before boats are loaded and sent off on the captain's orders.

Throughout the discovery phase, it was determined that the muster station endpoints should be battery-operated and ideally removable/portable. For that reason, instead of fixed touchscreen PCs, Savance incorporated a customized Getac F110 tablet inside a Pelican case for each of the exterior endpoints. The endpoint was designed to be Power over Ethernet (PoE), so you could simply plug in one quick-disconnect, twist-style CAT 6e cable to both power and network the device. In addition, a proximity card reader was integrated into the device for quick mustering.

/ Solution /

By streamlining Transocean's entire mustering process, the Savance team proposed a digital emergency management system that leverages their powerful Emergency Mustering Software, Getac's F110 fully rugged tablet, RFID wristbands, and proximity cards to quickly identify and account for everyone on board at several muster endpoints throughout the rig during a drill or actual emergency.

Each crew member on the rig is given an RFID silicone wristband (preferred method) or a proximity card. This allows them to quickly identify and account for themselves at one of several muster points throughout the rig, based on the type of emergency situation and where the person is located at the moment of the incident. From the bridge or other areas of the rig, visibility into the rig muster is instantaneous through a large screen display, without phone calls, radio, or physical headcount. As a backup, if a person is not wearing their wristband or carrying their badge, their name can be selected from the touchscreen device when checking in to a muster point.

/ Getac F110 /

Getac's F110 tablet was an ideal choice by Savance to be part of the overall solution because of its fully rugged form factor and is both ANSI + IECEX certified for use in explosive environments such as an oil rig. A key factor in the decision to choose Getac over a competitive device was Getac's technology and configurability options. An available Ethernet port was critical because Savance developed a solution that would allow them to run a single wire out of the tablet to supply power as well as network connectivity - redundancy was critical as it relates to network connectivity. The F110 can also be configured with a built-in RFID reader, and an available USB port would also allow an external RFID reader for more flexibility in certain situations.

The F110 is also able to perform in a variety of temperature ranges from -20F to 145F. This was critical because it was expected to work outdoors in extreme heat, sunlight, and other adverse weather conditions. When not in use, it would be stored inside a Pelican Case which can get rather hot. Finally – a device with a solid warranty was vital given the harsh environment of an oil rig. The F110 comes with a 3-year Bumper-to-Bumper Warranty that includes accidental damage.

Another requirement that this solution required was that F110 would need to be mounted on a wall or bulkhead and support the power splitter packaged in a way that that could support the power splitter of the ethernet cable hidden behind it. Working in conjunction with one of Getac's solution partners, we were able to provide a customized mounting solution to properly mount the F110, hold the power and splitter assembly, and support an external badge reader.

/ Results /

The new electronic mustering process offers a faster, more efficient, and more reliable way to account for people than the previously used methods resulting in 25% faster muster times.

- Greater visibility and improved response time in an actual emergency
- Faster, more reliable musters
- Reduced risk of human error

Pictures courtesy of Savance Workplace.