Getac

Rugged Mobile Computing Solutions

TRANSPORTATION & LOGISTICS


# Optalert

## Optalert chooses Getac rugged ZX70 tablet to support Eagle Industrial solution

## / Challenge /

Optalert develops fatigue management and early-warning drowsiness detection systems for use in mining and transport. These systems must operate reliably and consistently in some of the world's harshest and most rugged environments. Eagle Industrial is Optalert's real-time drowsiness monitoring system, ideal for use in environments with extremes of temperature and humidity.

Real-time measurement and display of alertness levels are critical in providing drowsiness protection for drivers and other employees working in harsh conditions. Optalert's Eagle Industrial platform also lets supervisors and managers remotely monitor drivers' real-time drowsiness levels via a cloud-based monitoring and reporting service, providing an additional layer of defence to decrease the risk of driving incidents due to fatigued drivers or equipment operators. With miners operating heavy industrial equipment in remote areas with very high and very low temperatures and humidity, Optalert needed to complement its software with a compatible device that would operate reliably in these challenging conditions.

## / Solution /

Optalert offers its early-warning drowsiness detection system software with the Getac ZX70 seven-inch rugged Android tablet. With its thin and light, ergonomic design and class-leading battery runtime performance for mission-critical field operations, the Getac ZX70's environmental specifications make it reliable for use in temperatures ranging from -21°C to 60°C. Optalert chose the ZX70 because it met the rigorous requirements for the Optalert Eagle Industrial system in mining operations. Since the project began Optalert has purchased over 1500 Android based rugged tablets. The Getac ZX70 has been the chosen model for the last few years.


Getac ZX70
Fully Rugged Tablet

## / Benefit /

The Getac ZX70 tablets support the Optalert software system and its associated wearable devices, providing a stable, reliable software and hardware platform that can be customised for specific user needs. Its small size and durability in tough environmental conditions mean it can be installed in vehicle cabins to provide driver protection and ease-of-access for maintenance support.

## / Quote /

"The ruggedness and robustness of the Getac ZX70 device makes it the right hardware platform for the Optalert Eagle Industrial product. The Getac ZX70 operates reliably in extremely hot and cold environments, as well as being built to withstand dust, liquids, drops, shocks, and vibrations, which are capabilities that are critical to our users' operations.

One of the crucial components in delivering fatigue management and early-warning drowsiness detection systems is providing accurate and continuous readings of alertness levels. This means devices need to be reliable and high-performing. Optalert is still operating Getac rugged devices in the field after six years, proving their longevity and reliability even in challenging environments. Additionally, the ZX70's GPS and cellular and Wi-Fi communication capabilities enable vital field-generated information to be provided to our customers in near-real time via our cloud-based data analysis, monitoring and reporting system."

Christopher Hocking, Product Manager, Optalert

## / Challenge /

Drowsiness protection is critical for drivers and other employees operating heavy machinery in harsh conditions. Optalert's Eagle Industrial platform lets supervisors and managers monitor the real-time drowsiness levels of drivers. The software relies on accurate readings of alertness levels to provide an additional layer of defence in decreasing the risk of drowsy driving incidents.

The Eagle Industrial platform was designed to be installed within the vehicle cabin, to continuously measure driver drowsiness. It keeps operators and drivers aware of their own alertness levels while operating machinery, and lets supervisors and managers monitor every driver in the fleet in real time.

Optalert needed to integrate its Eagle Industrial platform with a compatible operating system and hardware platform that would reliably operate in harsh conditions, to better support miners and other users. The Optalert system needed to be supported by hardware that could be deployed in heavy industrial equipment and operate in remote areas that experience very high and very low temperature and humidity, and high levels of dust and dirt.

Optalert's customers manage mining operations in extremely hot regions such as parts of Africa where the cabin temperature can rise above 50°C in summer, as well as high altitude desert sites in South America, which can experience very low temperatures at night. With sites and users operating in a variety of harsh conditions, the Optalert system needed to be able to cope with different locations and environments, while providing consistent and reliable operation and support.

Optalert identified Getac as the ideal integration partner for the Eagle Industrial system. Reliability was the biggest factor for Optalert, and the company has existing Getac rugged tablets still operating in the field after five to six years of use.

## / Solution /

After initial success with the reliability of an earlier Getac device, Optalert selected the lightweight Getac ZX70 seven-inch Android tablet for its reliability operating in temperatures ranging from -21° to 60°, which is critical to the Optalert Eagle Industrial system. Its small size meant it could easily be installed within the cabin for users to operate and monitor. Since the project began Optalert has purchased over 1500 Android based rugged tablets. The Getac ZX70 has been the chosen model for the last few years.

The rugged Getac ZX70 features a powerful core processor for increased speed in operations. It integrates with Optalert's wired and wireless glasses to calculate and display an in-vehicle drowsiness score for operators, and also transmits that score (via cellular or Wi-Fi comms) to a cloud-based system for supervisors to monitor. The ZX70 tablet also includes a sunlight-readable display, which enhances its readability in the harshest operating conditions with its 580 nits of brightness display.

The ZX70 is certified to a MIL-STD 810H six-foot drop rating, and is engineered to withstand vibration, dust, liquid, rain, shocks, and more, which makes it an ideal hardware platform for the Eagle Industrial solution.

## / Benefit /

The Getac ZX70 is ideally suited to the harsh environments in which Optalert's customers operate. Its small size makes it easy to install in vehicle cabins for user operations and has significantly improved the installation time for Optalert's early-warning drowsiness detection solution, reducing installation time from three to four hours down to as little as one-and-a-half hours, which minimises costly interruptions to mining production for customers.

Optalert selected the ZX70 device as it needed a solution with a custom operating system that could be locked down to protect company IP. The ZX70 device and customised operating system enabled the Eagle Industrial product to be created from an existing hardware device, significantly reducing manufacturing lead times and simplifying the manufacturing process for Optalert. Its seamless integration with the Optalert glasses also made it the ideal solution to calculate and display the drowsiness score required by operators to monitor their alertness while operating heavy machinery.

## / About Optalert /

Optalert is an innovative medtech company and leader in the field of drowsiness and wakefulness measurement and monitoring.

Today, Optalert's highly-skilled team boasts scientists, hardware and software engineers, data analysts, mathematicians, and a dedicated customer support team based around the globe. Its customers span a variety of industries including: mining, gas & oil, road transport, automotive, scientific research, pharmaceutical drug trials and neurological research.