

# NIGHTWATCH Equine Halter Uses XeThru Technology

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[NIGHTWATCH](#) is a cutting-edge horse halter with embedded state-of-the-art technology, including **XeThru technology from Novelda**. Among its many functions, the halter monitors a horse's respiratory rate, heart rate, activity, motion, and posture in real-time, thereby working as an early warning system for equine distress. In May 2018, [Forbes](#) published an article regarding this groundbreaking halter and specifically recognized our technology within the product.

## **NIGHTWATCH Gives You 24/7 On-Demand Insight into Your Horse's Health Status**

Founded by Jeffrey Schab and Wade Giles in 2013, the entire NIGHTWATCH endeavor started off with the unfortunate passing of one of their treasured horses whom, like too many horses, passed from a sudden colic event. **“Colic is reported by insurance companies and universities as the single greatest killer of horses,”**<sup>2</sup> and, according to NIGHTWATCH, **more than 150 horses in the U.S. die each day due to colic**, largely because of delayed intervention while these horses are unsupervised overnight. NIGHTWATCH now offers horse owners peace of mind, knowing they will be alerted if their beloved horse presents unusual biometric and/or behavior activity that correlates with pain from colic or other forms of equine distress. The halter is made of all-natural leather with hypoallergenic stainless-steel hardware, houses the integrated technology in a water- and dust-resistant enclosure, and is offered exclusively by [Protequus](#) (Austin, TX) in collaboration with their technology partner, [NRGXP](#) (Rochester, NY).

Despite the tragic inspiration that brought this idea to life, NIGHTWATCH is now aiming to prevent the millions of horse owners around the world from suffering a similar sorrowful fate. Coined the World's first Smart Halter, NIGHTWATCH alerts caretakers by email, text message, and phone call if any physiologic anomalies with their horse are

detected. Even in the absence of an alert, caretakers have 24/7 access to real-time and historical information of their horse's vital signs, activity, posture, motion, and geolocation through the convenience of a Web app.

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*Horses do not like to show signs of weaknesses, so a lot of times when they start having sort of distress, what you are going to see isn't behavioral [signs], it's going to be more of vital signs. Their heart rate and respiratory rates are going to get elevated, but they're not necessarily going to show outward physical signs of distress until it's very far along.*

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- Ashley Craig, DVM, Hagyard Equine Medical Institute

## **XeThru Set To Monitor Vital Signs and Save Lives**

In order to deal with the major challenge of these strong herd animals refusing to reveal signs of weakness and thereby not allowing their owners to identify the symptoms of illness, our very own [XeThru X2 System-on-Chip](#) (SoC) is incorporated into the halter to detect these biometric changes within the horse. With the X2's SoC data, they are able to **monitor the horse's vital signs with its respiratory rate and heart rate, which is critical to identify early signs of colic** (amongst other symptoms) and can then help save the horse's life by allowing the owner to be aware of alarming signs at an early stage. Heart rate and respiratory rate are the two most important vital signs that correlate with pain and acute distress in horses, and XeThru is monitoring vital signs through the horse's coat and skin without any harmful radiation.

Not only that, change of vital signs within a horse can also indicate other conditions that may require immediate attention, such as a horse being cast or a pregnant mare who is about to give birth (ie, foal).

NIGHTWATCH has been working with Novelda's Value Added Reseller in the North American region, [Flat Earth Inc.](#) Flat Earth has specialized in using ultra-wideband impulse radars (UWB IR) and can both develop complete solutions and consult customers using XeThru technology. With their 10 years' experience in designing with Novelda's XeThru technology, they develop applications for environmental monitoring, proximity sensing, medical applications and transportation, search and rescue, and other novel applications utilizing radar, GPS, and information systems.

### **XeThru by Novelda Recognized by Forbes Magazine**

Patrick Moorhead, one of Forbes' Content Contributors and author of the article, initially posted an article concerning NIGHTWATCH already in 2015. To his astonishment, it received massive response and interest, and it was read by more than a 100,000 people in the first few days. Back then, NIGHTWATCH was still in the early development phase and Moorhead did accordingly not have the full information regarding all the technical details around the smart halter. But, now that he does, he has uttered his response to his updated technical insight: "I am blown away by the level of sophistication and amount of bleeding-edge technology organized into a very small and low-profile form factor." You can read Forbes' article [here](#).

Click [here](#) to learn more about and purchase the NIGHTWATCH smart halter.

### **Learn more about XeThru's Respiration and Presence Sensors**

The [X4M200 Respiration Sensor](#) can monitor sleep and respiration, and is targeted for applications such as sleep monitoring, baby monitoring, elderly care, and other health monitoring applications.

The [X4M300 Presence Sensor](#) can detect presence of stationary targets up to a 9.4m distance and it is targeted for a variety of applications including security, lighting and HVAC control.