

## **Nonin Medical Business Overview: Products and Technologies**

Nonin Medical is a medical device manufacturing and distribution company specializing in noninvasive physiological monitoring. Our company successfully developed the world's first handheld pulse oximeter in 1990, making oximetry monitoring portable for the first time, and has been leading the oximetry market in new products, applications and audiences ever since. Today, with over one million pulse oximeters sold worldwide, Nonin Medical oximetry is used on millions of people every day.

While Nonin is a leader in pulse oximetry, our strategic vision and ongoing technology developments encompass other areas of physiological monitoring. This includes new technologies such as capnography (EtCO<sub>2</sub> monitoring) and regional oxygenation, as well as creating new venues to deliver monitoring that empowers patients while providing clinicians with a more effective means of patient monitoring. Among customers who know us well, Nonin is associated with innovative technology, knowledgeable customer service and unparalleled product reliability.

Nonin has over 90 OEM partners that integrate our highly accurate and cost-effective noninvasive monitoring technologies into a wide variety of clinical settings including hospital, sleep and homecare. Our full line of oximetry, capnography, sensor and software technologies are available in over 125 countries and we have the largest installed base of pulse oximeters of any brand to date.

Our products include:

### **Pulse Oximetry (SpO<sub>2</sub>)**

#### **Fingertip**

Nonin Medical invented the fingertip pulse oximeter in 1995 with the introduction of the Onyx® 9500 and continues to be the most trusted name in fingertip oximetry. As leaders in innovation, we have revolutionized fingertip oximetry with the award-winning Onyx II, Model 9560 with Bluetooth® wireless technology.

#### **Handheld**

Nonin Medical developed the world's first handheld pulse oximeter, the Model 8500, in 1990 and has since introduced a number of innovative handheld monitors including the PalmSAT® 2500 with USB—the world's first official Continua™-certified product.

#### **Tabletop**

Nonin Medical's line of tabletop pulse oximeters includes both single and multi-parameter monitors. Choices range from the Avant® 4000, the world's first wireless pulse oximeter integrated with Bluetooth® wireless technology, to the Avant 2120 pulse oximeter with noninvasive blood pressure monitoring.

#### **Wrist -worn**

Nonin Medical's mission is to provide dependable monitoring solutions that are simple to use and functional in a wide range of clinical applications. The 3100 WristOx® is a small, lightweight pulse oximeter that is worn comfortably on a patient's wrist. Compact and easy to use, the non-intrusive design gives patients greater freedom and comfort for improved compliance.

## **Interoperable Solutions**

As a recognized leader in telemedicine, Nonin Medical is at the forefront of developing interoperable solutions that utilize innovative technologies such as Bluetooth® wireless technology and USB, as well as comply with open standards such as Continua™, Bluetooth Health Device Profile (HDP) and IEEE. Nonin is dedicated to developing cross-industry standards to reduce the cost of healthcare and is working with a wide array of partners to achieve this goal.

Nonin's current interoperable solutions include:

### *Onyx® II, Model 9560 fingertip pulse oximeter*

Integrated with Bluetooth® wireless technology, Nonin's Onyx® II, Model 9560, winner of Bluetooth SIG's *Best of CES 2009 Award*, will enable clinicians and patients to monitor vital signs with greater ease and cost-efficiency than previously possible.

### *PalmSAT® 2500 with USB*

The world's first official Continua™-certified product, the PalmSAT® 2500 with USB is a highly accurate and durable handheld pulse oximeter.

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## **Fiber Optic**

Nonin Medical's 7500FO (fiber optic) tabletop pulse oximeter is specifically designed for use in fixed-site or mobile MR facilities for monitoring infant, pediatric and adult patients.

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## **Capnography (EtCO<sub>2</sub>)**

### **Tabletop**

Waveform capnography provides real-time feedback on how the patient is breathing or ventilated. Ideal for spot-check and continuous EtCO<sub>2</sub> monitoring, Nonin Medical's LifeSense® capnograph, winner of EMS Magazine's *Top Innovation Award 2008*, offers the earliest indication of an adverse breathing event. Whether used at the bedside, in the field or during transport, Nonin capnography provides accurate, first-breath EtCO<sub>2</sub> value and waveform.

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## **CO<sub>2</sub>**

### **Handheld**

Nonin Medical's CO<sub>2</sub> monitors provide fast, first breath readings with proven accuracy and durability. The Nonin 9840 handheld monitor combines proven pulse oximetry technology with reliable CO<sub>2</sub> detection making it an ideal monitor for patient transport and emergency use.

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## **Sensors (Human)**

Nonin Medical offers a wide choice of latex-free reusable and disposable sensors. Each is easy to use and designed for specific clinical applications. Our sensors, using PureLight® LEDs, fit a wide range of patients from neonatal to adult and are ideal for a number of applications.

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## **Software**

Nonin Medical's nVISION® Data Management Software for oximetry screening is a powerful, yet easy-to-use oximetry data analysis tool designed to increase productivity and decrease administrative costs.

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## **Veterinary Solutions**

### **Monitors**

Nonin Medical's innovative and economically priced vet solutions are engineered with the same high quality and precisely accurate PureSAT® SpO<sub>2</sub> and MedAir™ EtCO<sub>2</sub> technologies as our human monitors. The integration of these proven technologies with our vet-specific software and custom-made hardware (sensors), enables our devices to accurately monitor the wider heart rate range of animals (18 – 450 bpm), as well as have an enhanced sensitivity to low perfusion signals.

### **Sensors**

Nonin Medical's veterinary sensors are ideal for short term and continuous noninvasive monitoring and include clip-on (2000SL), transreflectance (2000T) and flexible wrap (2000SA) applications. Each of Nonin's sensors can be used with any of its veterinary products.

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## **Technologies**

### **Nonin Medical's PureSAT® Oximetry Technology**

Nonin Medical's clinically-proven PureSAT® pulse oximetry technology utilizes intelligent pulse-by-pulse filtering to provide precise oximetry measurements — even in the presence of motion, low perfusion or other challenging conditions. By reading the entire plethysmographic waveform, PureSAT signal processing pre-filters the pulse signals to remove undesirable signals and advanced algorithms then separate the pulse signals from artifact and typical interference — leaving only the true pulse. And with Nonin's adaptive averaging technology, there's no mode switching — PureSAT automatically adjusts to each patient's condition, from infant to adult, quickly and accurately.

### **Nonin Medical's MedAir™ Capnography Technology**

Ideal for spot check and continuous EtCO<sub>2</sub> monitoring, Nonin Medical's MedAir™ sidestream capnography technology provides the earliest indicator of an adverse event in the breathing function of a patient. Whether used at the bedside, in the field or during transport — Nonin's fast, first breath EtCO<sub>2</sub> technology eliminates the need for calibration or auto zeroing during patient monitoring — providing accurate, first-breath EtCO<sub>2</sub> values and waveform for all patient breathing conditions.

### **PureLight® Sensor Technology**

Nonin Medical has long recognized that an accurate and dependable SpO<sub>2</sub> reading starts with the sensor. Nonin's PureLight® sensor technology boasts pure red and infrared LEDs to create unparalleled accuracy — even at critical SpO<sub>2</sub> levels. Nonin's PureLight LEDs hold a steady calibration curve even at SpO<sub>2</sub> levels below 80 percent.