

Condition Monitoring Solutions

SensoNODE™ Sensors & Voice of the Machine™ Software



VOICE OF THE MACHINE



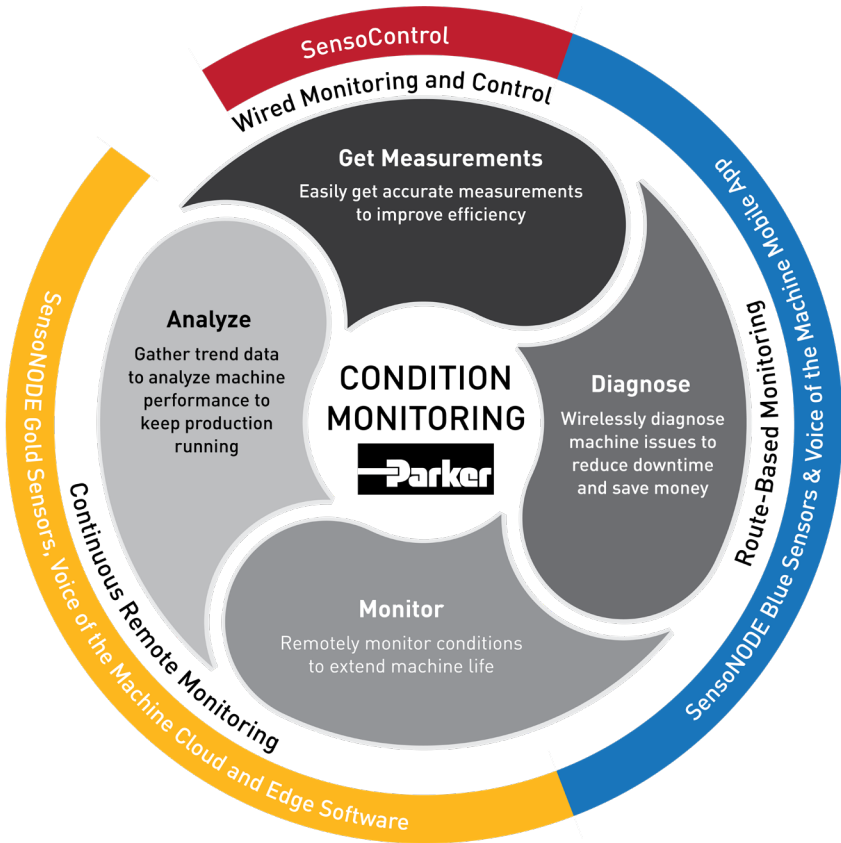
Streamline Your Work with Advanced Condition Monitoring and Diagnostics

Advanced condition monitoring replaces the laborious, time-consuming process of walking from asset to asset, checking manual gauges, taking hand-written notes, and then spending the time to crunch those numbers.

Wirelessly get measurements safely and without interrupting production.

- Identify issues before they escalate
- Reduce downtime
- Decrease maintenance costs
- Avoid dangerous situations
- Make better, more informed decisions
- Improve labor efficiency

When used together, SensoNODE Sensors and Voice of the Machine Software create an advanced condition monitoring solution that delivers vital measurement data and analytics to help drive optimal operational and strategic decisions, leading to maximum uptime.



Condition Monitoring Solutions

	SensoControl	SensoNODE Blue and Mobile App	SensoNODE Gold and Edge	SensoNODE Gold and Cloud
Primary Application				
Wireless Continuous Remote Monitoring			√	√
Wireless Route-Based Monitoring		√		
Diagnostics	√	√		
Communication Method				
900 MHz Wireless			√	√
Bluetooth Low Energy (BLE)		√		
Wires	√			
Key Features				
Alert Notifications - Text, Email			√	√
In-Use Alarms		√	√	√
Export and Share Data	√	√	√	√
Recordings	√	√	√	√
View Historical Data			√	√
Configurable Dashboards		√		√
Functions or Calculations	√	√	√	√
Configurable Units of Measure	√	√	√	√
Multiple Visualizations	√	√		√
Viewable on Multiple Devices		√*	√	√
Add Sensors Instantly	√	√	√	√
Fastest Measurement Rate	1 millisecond **	1 second	20 seconds	20 seconds
Pressure Spike and Drop Capturing	√			
Synchronization of Measurement Inputs	√			
Battery Life	Use Dependent	Rate Dependent	Rate Dependent	Rate Dependent
FCC, IC, &/or CE Certified	√	√	√	√
IP Rating	IP67/IP64/IP65***	IP65	IP65	IP65
Data Storage				
Cloud			√	√
Local Server			√	
Mobile Device		√		
Handheld Meter	√			
Interface				
Desktop/Laptop	√		√	√
Mobile App		√		
Handheld Meter	√			
Other				
Software License			√	
Optional Cellular Subscription				√
Internet/WiFi/LAN Required			√	√
Collection Server Required			√	√
Site Survey Required			√	√

*In Broadcast Mode Only **0.1ms Available on ServiceMaster+ ***Varies with Handmeters

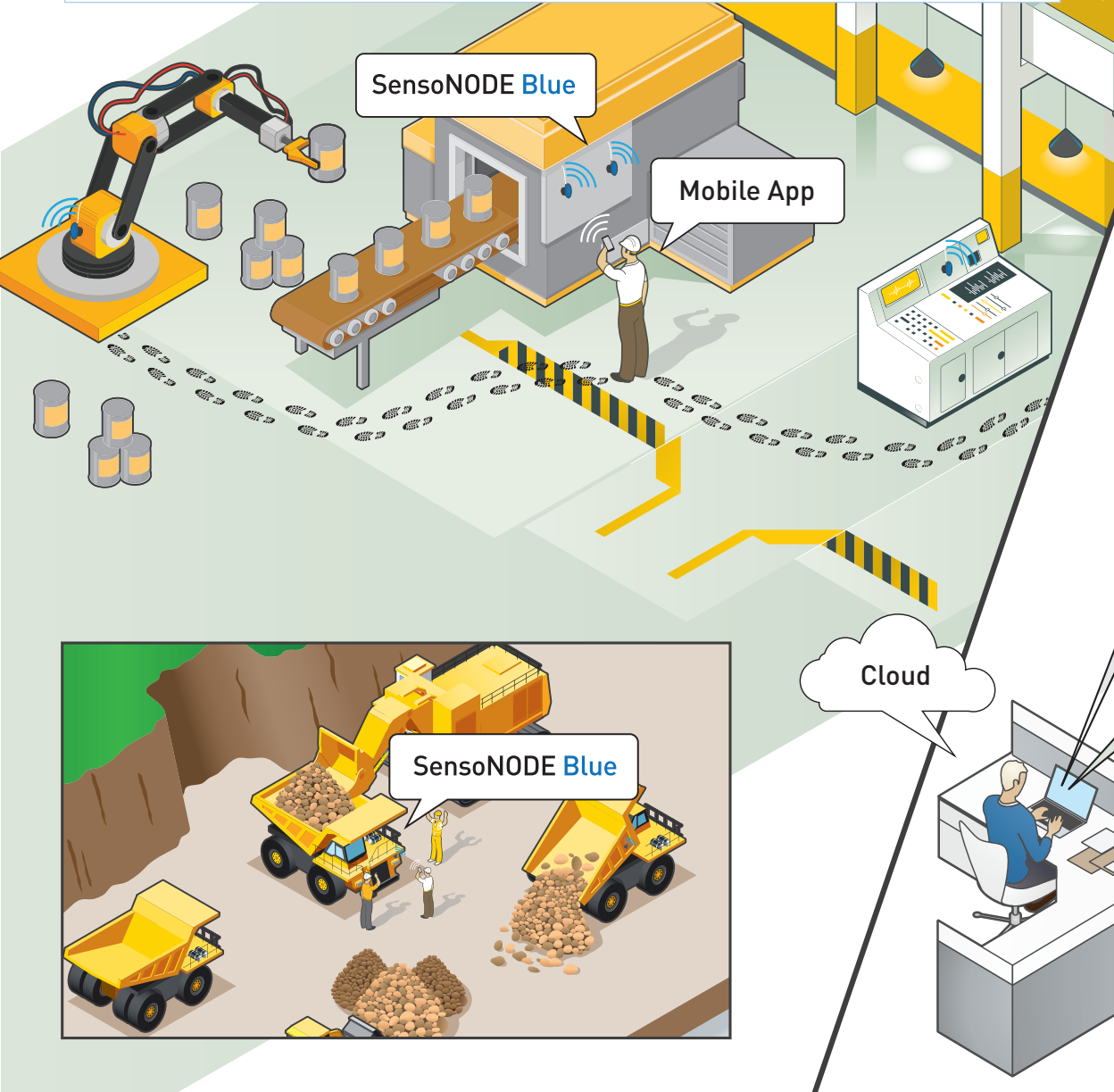
Route-Based Monitoring vs. Continuous Remote Monitoring

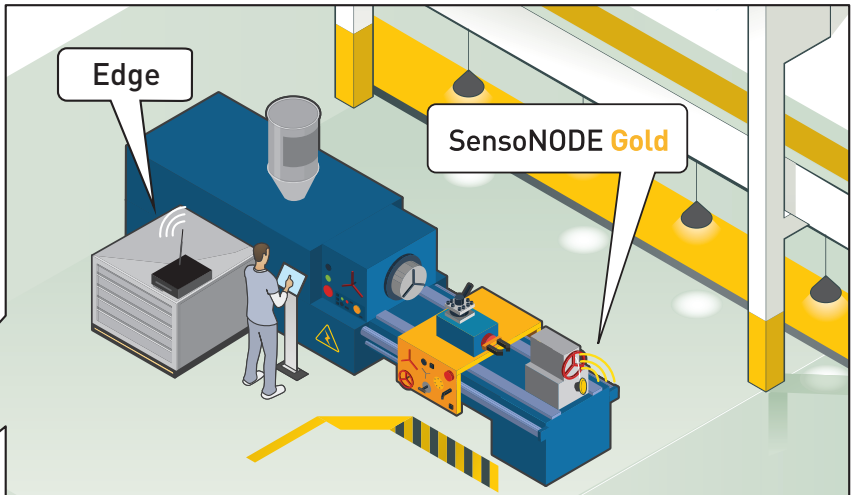
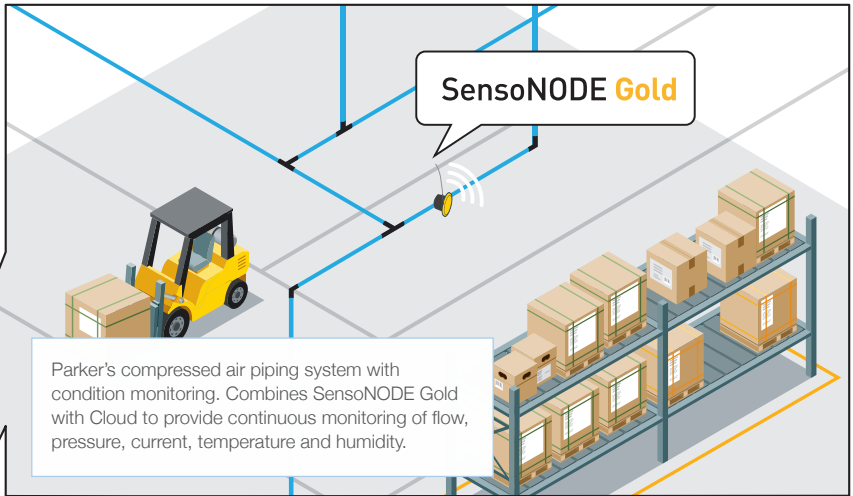
Route-Based Monitoring - No network required (SensonODE Blue and Mobile App)

- Short-term monitoring when you need it
- Take measurements from individual machines
- Export recorded measurements
- Aids diagnostic efforts
- Wireless solution for on-site monitoring

Continuous Remote Monitoring - Network-based (SensonODE Gold and Cloud/Edge)

- Long-term and immediate health of machines and processes are viewable around the globe
- Ideal for environments where assets are mission critical, and shutdowns are costly
- User selectable measurement data storage
- Remote solution accessible anywhere, anytime





SensoNODE™ Sensors

SensoNODE

Blue Sensors:



SensoNODE

Gold Sensors:



SensoNODE™ Sensors

Parker's family of compact energy efficient, wireless sensors for use in a wide range of applications. Designed to eliminate the challenges of traditional monitoring in everyday applications, SensoNODE wireless sensors monitor, and diagnose assets to help predict problems and prevent downtime.

SensoNODE Blue Sensors

Parker's series of Bluetooth-enabled sensors. Compact, energy-efficient, and wireless, they are designed to provide simple and useful solutions for diagnostic and condition monitoring applications with mobile devices. SensoNODE monitors for changes in asset measurements to help predict problems and prevent downtime.

WHY BLUE?

- Accurate measurements
- Easy installation
- No network and support required
- Mobile access to machines and processes
- Wireless installation removes challenges of wired systems
- No external power source required
- Ultra-low battery consumption for up to five years of battery life
- Sealed sensor housing ideal for harsh environments
- Compact lightweight design
- LED indicators aid in identifying sensor status

SensoNODE Gold Sensors

Parker's series of networked, wireless sensors that are developed for continuous remote condition monitoring via the cloud or local enterprise applications. That means as long as you have an internet signal, you can get up-to-date measurements.

WHY GOLD?

- Wireless sensors that are small in size
- Simple sensor installation
- Provides accurate measurements
- Place sensors at point of need
- Longer battery life
- Longer range radio
- Durable construction for harsh environments – IP65 Rating

Voice of the Machine™ Software

Parker's suite of condition monitoring, diagnostics, and analytics software. With an easy-to-use interface and compatibility with multiple browsers and mobile devices, Voice of the Machine puts vital information and analytics in-hand to help keep systems healthy and operating efficiently.

Mobile App

Voice of the Machine SensoNODE Mobile app allows users to receive measurements direct to their mobile devices. The mobile app compiles the data and presents it in a way that makes sense to a user's operation, allowing them to track data immediately, and receive user-defined alarms for unexpected condition changes. Mapping and dashboard functions allow you to customize data visualization.

WHY MOBILE APP?

- Measurements delivered to your mobile device
- Easy-to-use interface
- Customizable dashboards
- Mapping function
- Set your own alarm thresholds of measurements (min/max)
- Alerted when outside of defined thresholds
- User definable sensor naming
- Easy-to-understand trend charts
- Multiple users can access data from their mobile device
- Export data for analysis, sharing, and retention

Voice of the Machine Cloud Software

Parker's cloud-based continuous condition monitoring interface that provides alerts, status, and analytics for increased awareness of your processes and assets.

WHY CLOUD?

- Access to data anytime, anywhere
- Easy-to-use web-based interface
- No software download – no updates
- Receive alert notifications - email, text message, or in-system
- Visualize data in a way that makes most sense
- Customize alerts, trend charts, and dashboards
- View measurement anomalies easily
- Support continuous improvement efforts with trend data
- Multiple user access levels
- Remotely monitor multiple sites and sensors
- Export and share data

Voice of the Machine Edge Software

The Edge interface is designed to work seamlessly with a web browser-based user interface. Data is ingested from virtually any industrial asset. The software allows you to run various applications utilizing your data at the Edge, or send it securely to the Cloud for seamless enterprise integration.

WHY EDGE?

- App & Industrial Driver Marketplace
- Security Monitoring
- Remote Device Management
- 3rd Party Cloud Integration
- Private Marketplace
- Easy to Use Graphical Programming Interface
- Industrial Device Connectivity
- Application Deployment
- Secure Access

Parker's IoT-Empowered Solutions

Manufacturing is undergoing a digital revolution centered on new technologies that promise to deliver greater efficiency, speed and higher quality. A central component of this shift is the Internet of Things (IoT), which serves as the frontline of data capture from machines and equipment to ensure operations and companies are moving forward.

Parker's **SensoNODE™ Sensors** and **Voice of the Machine™ Software** are IoT-empowered solutions that create advanced condition monitoring possibilities to reduce downtime and decrease maintenance costs, helping you to maintain production and improve efficiency.



Voice of the Machine powers Parker's IoT solutions and ensures data is being generated on dozens of critical parameters of your operation. With Voice of the Machine, you're assured of component-level IoT that is interoperable, secure, scalable and easy-to-use.

- Reduce your risk, maintenance costs and unplanned downtime
- Uncover operational and performance improvements
- Make smarter, more confident decisions and enjoy greater peace of mind
- Leverage Parker's expertise to employ easy, cost-effective strategies

Contact your Parker Distributor to learn more.

Parker.com/ConditionMonitoring

Have questions or need help? Sign into our Condition Monitoring Service Desk.

<https://phscout.atlassian.net/servicedesk/customer/portals>

Parker Hannifin Corporation
Quick Coupling Division
8145 Lewis Road
Minneapolis, MN 55427
phone 763 544 7781



ENGINEERING YOUR SUCCESS.