



SDT ULTRASOUND SOLUTIONS

# PRODUCT GUIDE

[SDTUS.COM](http://SDTUS.COM)

## WHY ULTRASOUND?

For millennia, we've relied on our keen sense of hearing to alert us of danger. Today, that same attribute warns us as our assets begin to fail.

The earliest indication of an asset's changing condition is ultrasonic. No matter how subtle those changes might be. This allows us to anticipate failures and plan maintenance further in advance.

SDT's ultrasound sensors hyper-sensitivity to friction, impacting, and turbulence is why they're so effective at different condition monitoring applications.

Wherever assets rotate, leak, discharge, restrict flow, or lose efficiency, they generate high-frequency sound energy.



# RELIABILITY'S FIRST LINE OF DEFENSE™

At SDT Ultrasound Solutions, we enable our customers to achieve their operational objectives by improving the reliability of their assets.

We've been empowering industry for nearly 50 years, promoting more reliable, sustainable, and safe manufacturing processes.

Foresee asset failures, eliminate energy waste, and improve profitability with SDT Ultrasound Solutions.



# ULTRASOUND CONDITION MONITORING APPLICATIONS



## BEARING MONITORING

Measure the health of motors, pumps, bearings, and gears. Detect friction & impact related defects early.



## PRECISION LUBRICATION

Lubricate with confidence, knowing exactly when, where, and how much grease to add.



## LEAK DETECTION

Identify and repair compressed air and gas leaks for immediate energy savings.



## ELECTRICAL MONITORING

Eliminate unplanned electrical failures with early detection of faults like corona, arcing, and partial discharge.

Ultrasound's versatility makes it an important part of a condition monitoring program. Airborne and contact ultrasound inspection provide widespread asset monitoring coverage across mechanical, fluid, and electrical systems.

With ultrasound, you can manage your lubrication program, reduce compressed air waste, detect bearing defects, identify valve failures, locate heat exchanger tube leaks, find corona discharge, and test the tightness integrity of enclosed spaces. When friction, impacting, or turbulence signal a change in asset condition, SDT helps you Hear More™.



#### **COUPLING INSPECTION**

Non-intrusively inspect couplings, detecting defects like looseness, misalignment, and lack of lubrication.



#### **STEAM TRAP TESTING**

Identify failed, passing, and blocked steam traps using a simple three step ultrasound inspection procedure.



#### **VALVE MONITORING**

Detect valve passing, blockages, and cavitation before they cause damage or impact processes.



#### **HYDRAULIC INSPECTION**

Detect common defects in hydraulic-powered systems like bypass, leakage, cavitation, and unwanted flow.

**AND MANY MORE...**

# SDT340

## ASSET CONDITION MONITORING AND PRECISION LUBRICATION MANAGEMENT, CONNECTED.

The SDT340 is a multi-functional data collector trusted by maintenance and reliability teams around the world.



Ultrasound, vibration, temperature, tachometer, and lubrication data logging



See defects others simply cannot with a 256k measurement sampling rate



View time signal & spectral data on your SDT340 data collector in the field



10-minute measurement acquisition time allows for slow-speed data collection



Simplified metrics provide immediate feedback with each measurement



Contextualize measurements with messages that sync between the SDT340 & UAS3



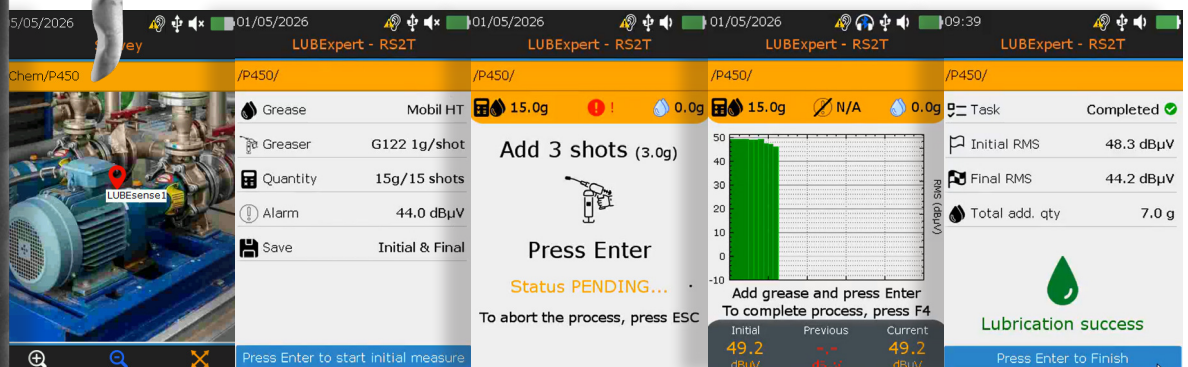
SDT's safe, relative, and absolute alarm system indicates the need for action



User-friendly navigational images help keep track of data points during routes

## LUBEXPERT MODE

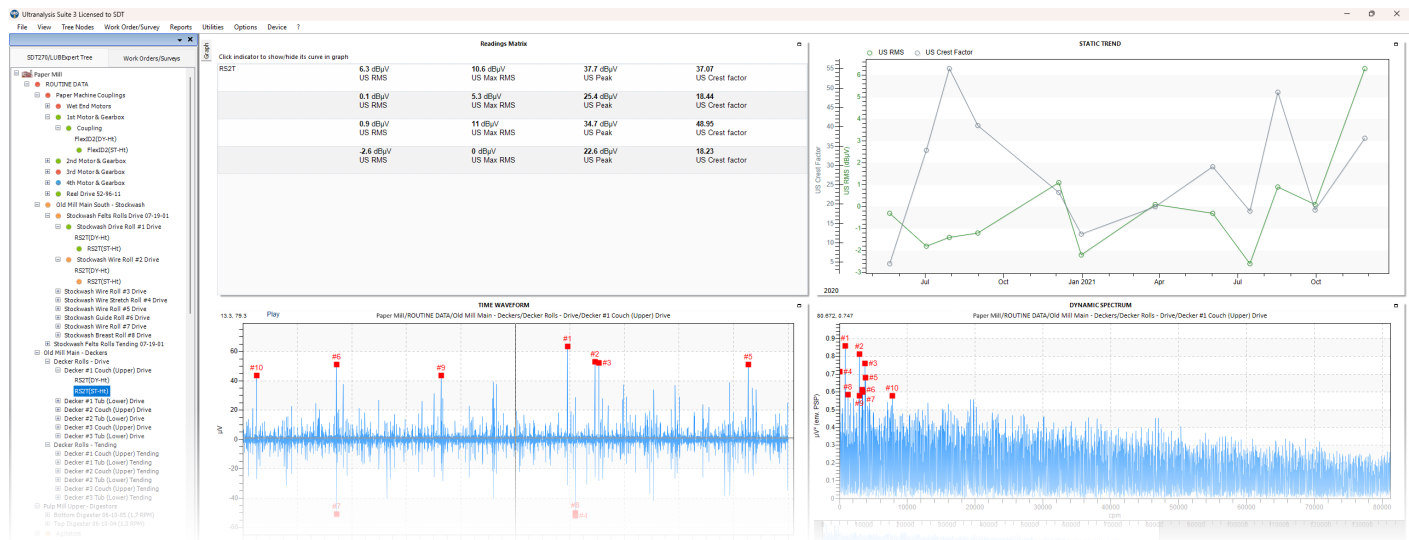
Connect lubrication activity to asset condition data with the SDT340 LUBExpert Mode. Execute detailed lubrication work orders, monitor bearing response during lubrication tasks, log condition monitoring data, and document findings from one trusted condition monitoring device.



# UAS3

BRIDGE THE GAP BETWEEN PRECISION  
DATA AND ADVANCED ANALYSIS.

UAS3 is an advanced ultrasound predictive maintenance platform for managing your asset-condition data. With the SDT340 it delivers an end-to-end condition monitoring solution; helping reliability teams measure, trend, and analyze ultrasound, vibration, and lubrication data with precision and ease.



High-resolution data and tools for confident analysis.



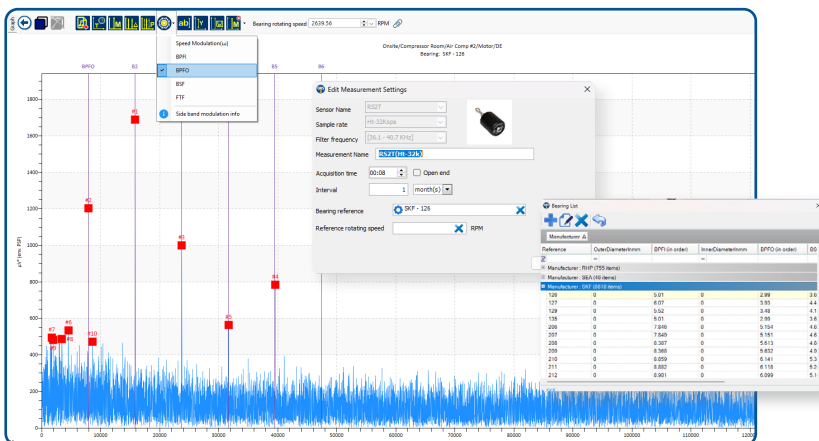
Organize your condition monitoring database your way.



Identify peaks and patterns that point to developing defects.



Record, store, and recall each saved measurement.



## THE BEARING TOOLBOX

This bearing fault frequency calculator adds over 50,000 bearing references and corresponding fault frequency cursors to improve the speed and accuracy of analysis.



**BRING RELIABILITY  
INTO FOCUS.**

For millennia humans have relied on a keen sense of sight and sound to stay alert of impending danger. Those same senses warn us when our assets are about to fail.

SonaVu®+ harnesses these senses by visualizing ultrasound to find compressed air, gas, and vacuum leaks, electrical faults, mechanical anomalies and other defects.

## THE NEXT GENERATION OF ACOUSTIC IMAGING

SonaVu®+ takes acoustic imaging further than ever before. Improvements to sensitivity, detection distance, and durability, help SonaVu+® thrive in tough industrial environments.

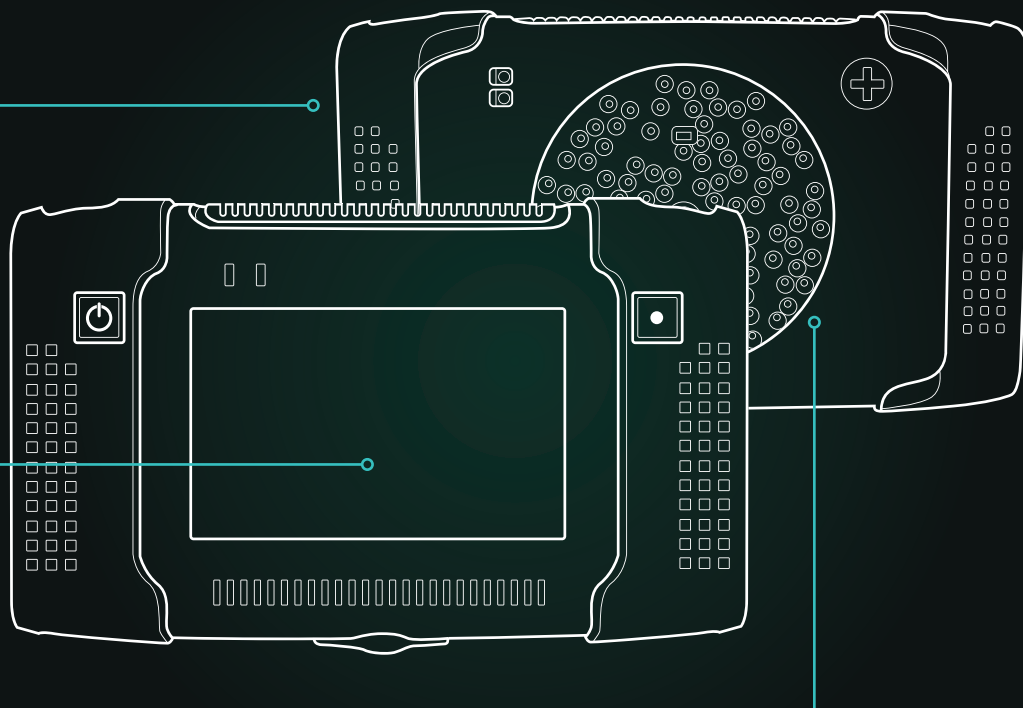
And with a more accessible price, advanced acoustic imaging is now within reach for more reliability teams.

### Long-Distance Optical Camera with Zoom

Capture sharp images and document defects clearly from long distances.

### On-Screen Spectrum & PRPD Charts

Visualize ultrasonic signals in real time during electrical inspections.



### Heterodyned Audio with Bluetooth

Stream converted ultrasound to Bluetooth headphones for live confirmation.

### 5-Hour Battery Life

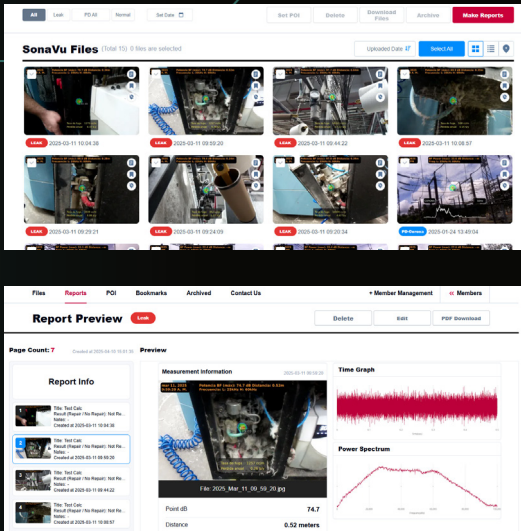
Inspect longer with up to 5 hours of rechargeable battery life.

### Multi-Point Defect Detection

Pinpoint multiple leaks or discharges at once to reduce survey time.

### 112 Digital Mems Sensors

Detect ultrasound producing defects from great distances.



## SONAVU INSIGHTS™ REPORTING APPLICATION

The SonaVu InSights™ app transforms every inspection into a professional and actionable report. Every finding is documented with images and video, giving teams a clear visual record of leaks, discharges, or anomalies.

Defects are automatically ranked by severity and impact, while energy losses or downtime risks are calculated to prove ROI. All results are stored in one cloud-based hub, making them easy to access, organize, and track over time.



### ELECTRICAL

Visualize arcing, tracking, and corona discharge before faults begin to escalate.



### LEAKS

Locate and visualize leaks even in noisy environments.



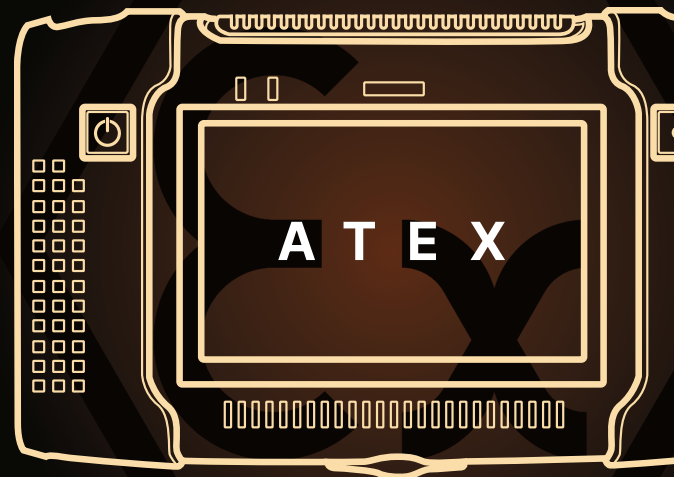
### MECHANICAL

Monitor critical drivetrain components prone to load-related damage.

## BUILT FOR HAZARDOUS ENVIRONMENTS

Safety is always the top priority, but especially in industries where flammable gases, vapors, or dust are present. Without proper certification, many tools can't be used, leaving critical assets unmonitored.

SonaVu+® ATEX is certified for use in Class I, Division I hazardous zones, giving reliability teams the confidence to inspect safely and maintain visibility in the most challenging environments.



# WIRELESS VIBRATION MONITORING & ANALYSIS

## PREDICTIVE MAINTENANCE SOFTWARE, PERMANENT MONITORING HARDWARE

Reduce the need for manual inspections by continuously monitoring your assets with a fully connected wireless vibration system. Every data point is reviewed daily, screened by an AI model and verified by a vibration analyst. Only real issues are passed on to your team. We handle full installation and setup, delivering a system that's tested, configured, and ready to go from day one.

Delivered as a fully managed wireless monitoring service, working with us includes ongoing support and regular performance reviews so your team can focus on fixing problems instead of searching for them.

## ANALYSIS

Our Wireless as a Service solution is backed by qualified, certified vibration analysts. Data is collected daily, then screened and analyzed using AI-driven tools and verified by a human, ensuring only real issues are reported.



### Wi-care™ G23

A piezoelectric-based, rugged wireless vibration, temperature, and high frequency (IDNA) sensor for permanently monitoring critical assets.



#### Rugged Design (IP67 Rated)

Sealed housing built to withstand dust, moisture, and vibration.



#### Precision Measurement

Track temperature, imbalance, misalignment, looseness, etc.



#### IDNA High-Frequency Detection

160 kHz signal processing enables early detection for most faults



#### Long Battery Life

Up to 5 years of operation with no routine maintenance needed.



#### Independent Measurements

Each sensor captures its own data for consistent results.

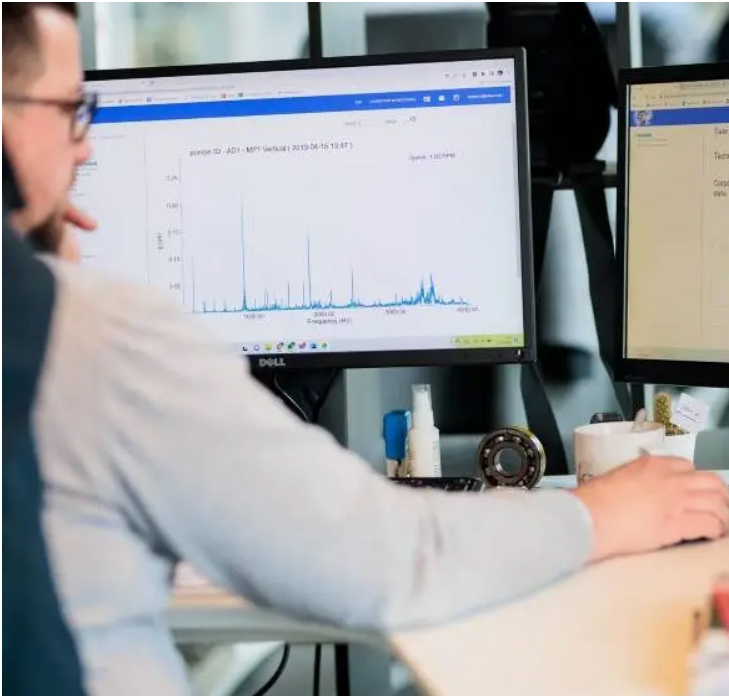


#### Wide Frequency Range

1 Hz - 20 kHz captures both low-speed and high-frequency defects.



## A REVOLUTION IN DATA-DRIVEN MAINTENANCE.



### SOFTWARE

At the center of the wireless vibration analysis and monitoring model is I-see™, software that bridges the gap between data and decision.

Built on a global machine health database comprised of decades of data, I-see™ continuously learns from assets across multiple industries.

Each new reading improves the system's ability to recognize patterns, detect early-stage faults, and understand how machines behave over time.

### I-SEE MOBILE APP: ASSET RELIABILITY ANYWHERE, ANYTIME

The I-see™ mobile app keeps your most critical assets in view wherever you are. Receive instant alerts, access performance insights, and monitor asset, plant, or global conditions directly from your device so you can respond faster and make informed decisions from anywhere.



# LUBExpert

## A MONITORING AND MANAGEMENT SOLUTION FOR WORLD-CLASS LUBRICATION PROGRAMS

LUBExpert is a handheld ultrasound data collector designed to make lubrication routes more precise, consistent, and condition-based. By measuring friction levels in real time, it helps prevent both under-lubrication and over-lubrication.



### Structured Lubrication Work-Orders

Guide technicians through each lubrication task with clear instructions for re-lubrication points, lubricant types, grease guns, bearing specifications, intervals, and historical data.

### Guided Lubrication Tasks

As grease is applied, the LUBExpert listens to the bearing's ultrasonic response, helping technicians understand how the bearing is reacting and when the proper amount of grease has been delivered.

### Data-Driven Lubrication Decisions

Use real-time data and historical trends to optimize re-lubrication intervals and quantities for future tasks.

### Acoustic LUBE Adapter

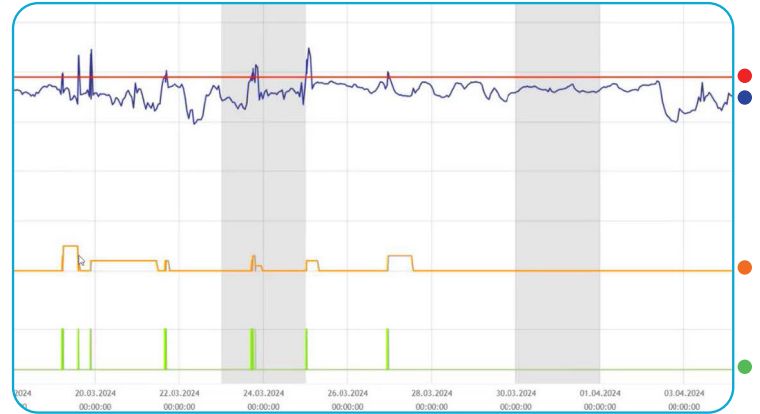
Connect your ultrasound sensor directly to the grease fitting, creating a seal acoustic path for reliable and repeatable signal capture.



## CONDITION-BASED AUTOMATED LUBRICATION

LUBExpert ON-GUARD combines the convenience of automated lubrication with the precision of ultrasound.

ON-GUARD continuously monitors friction levels and bearing health, applying grease only as needed. By leveraging real-time and historical data, it ensures optimal lubrication, preventing over- and under-lubrication failures while saving maintenance teams time, resources, and costly grease waste.

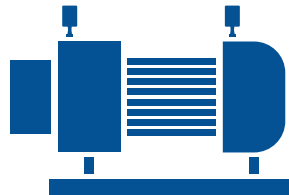
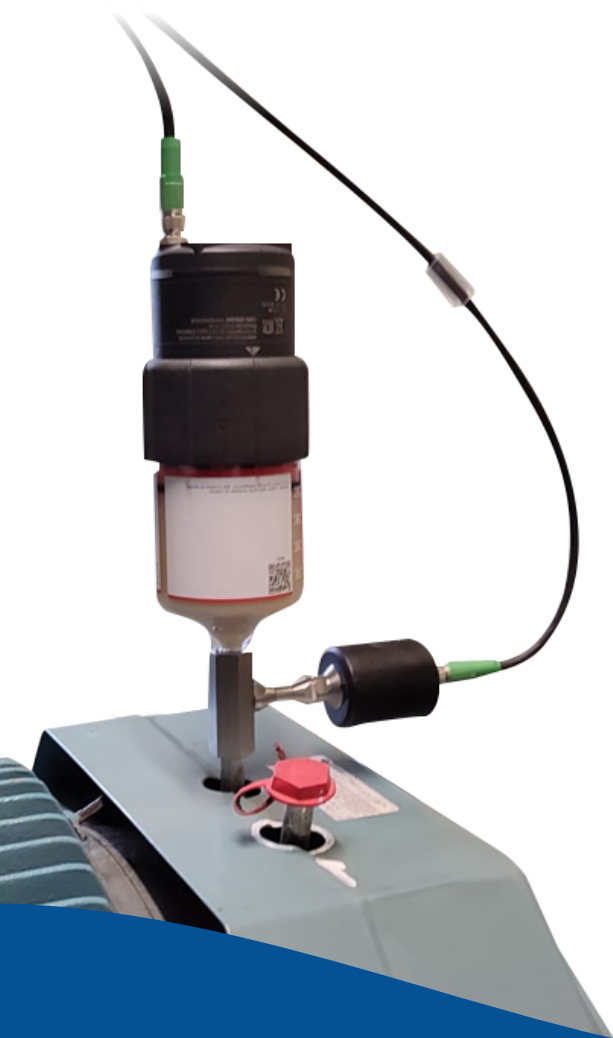


The red line represents the designated alarm threshold that triggers a greasing event

The blue line shows the overall friction level inherent within the bearing

The orange line displays the amount of grease injected

The green line indicates each greasing event as it occurred



1

COLLECT real-time data from the asset with the COMMONSense 4-20mA ultrasound sensor.



2

AUTOMATE greasing decisions based on historic and real-time data through the LUBrain™ Algorithm, then deliver lubrication with precision and only when needed.



3

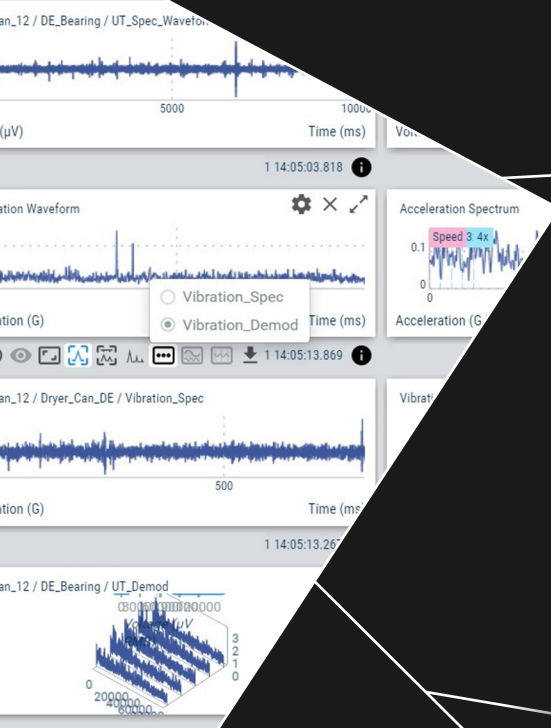
MANAGE & configure your system and analyze lubrication data with ON-GUARD's Embedded Software.



## ULTRASOUND'S VERSATILITY & VIBRATION'S ANALYTICS IN ONE CONTINUOUS MONITORING SOLUTION

Vigilant is an 8-Channel, turnkey condition monitoring solution with its own embedded software and long-range communications capability.

With 8 channels for ultrasound and vibration monitoring, plus 4 inputs for process data like temperature, tachometer, motor current, oil analysis, and other 4-20mA signals, Vigilant delivers a continuous view of critical asset condition in one platform.



### APPLICATIONS OF CONTINUOUS MONITORING



#### Critical Slow-Speed Assets

Continuously monitor large, slow-moving assets like cement kilns, crushers, and turbines, where early warning is critical and inspections are difficult.



#### Transformers

Combine ultrasound, temperature, load, current, oil, and process data to continuously monitor transformer health and detect developing conditions.

# ULTRASentry

ULTRASentry is an online permanent ultrasound monitoring system that delivers real-time insights for difficult to access, remote, and heavily guarded machinery.

Long-range communication and the ability to affordably scale data collection points enables large scale, automated monitoring.



#### 4x M8 Sensor Ports

Modular boards allow channels to adapt as your monitoring needs evolve.



#### Flexible Sensor Inputs

Connect COMMONSense 4-20mA ultrasound sensors and other supported sensor types.



#### Wireless Communication

Transmitters send data automatically to a central gateway.



#### Scalable Monitoring

Affordably expand automated monitoring across more assets and locations.



#### Browser-Based Software

View real-time insights and asset health across all connected points.



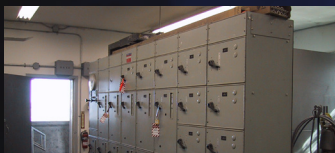
#### Local Data Access

Retrieve stored heterodyned readings directly from each transmitter via SD card or USB-C.



## Electric Motors

Monitor motor health by combining condition and operating data to detect developing mechanical, electrical, and lubrication-related faults.



## Motor Control Centers

Continuously monitor MCCs and electrical cabinets for abnormalities that may indicate discharge, overheating, or electrical faults.



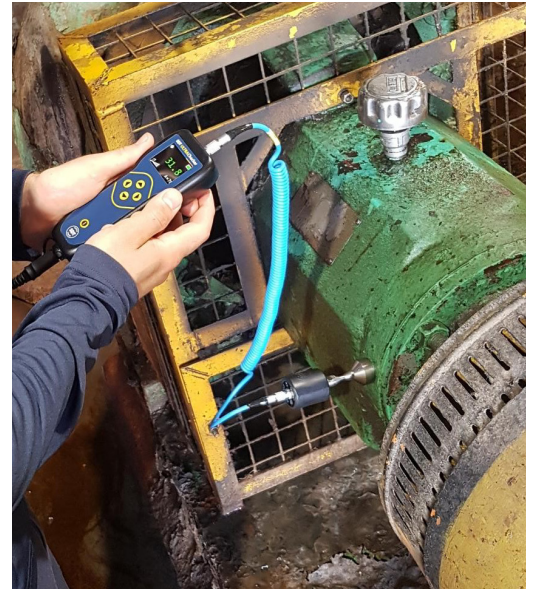
## Steam Traps & Valves

Use permanent monitoring to identify changing steam trap and valve conditions like leakage, blow-through, blockages, and mechanical failures.

## OPERATOR DRIVEN RELIABILITY

Empower your operators and maintenance & reliability team with simple condition monitoring tools that deliver focused results. SDT's Checkers gives ultrasonic insights to those most intimate with your critical asset's equipment.

These simple yet effective tools are perfect for your Operator-Driven Reliability (ODR) initiative, engaging more staff at every level to the point where identifying energy waste, lubrication errors, and asset failures becomes second nature.



# ULTRAChecker



### A VERSATILE, SIMPLE, AND AFFORDABLE SOLUTION FOR ASSET RELIABILITY

ULTRAChecker combines airborne and structure-borne ultrasound detection into a single, easy-to-use instrument. Designed for Operator-Driven Safety and Reliability initiatives, it helps more inspectors detect faults, reduce energy waste, and support asset reliability before problems lead to unplanned downtime.

Compatible with SDT's full range of second-generation ultrasound sensors, ULTRAChecker is a versatile tool for expanding ultrasound inspections across mechanical, leak, steam trap, valve, and electrical applications.

## CHECKER RANGE

Each Checker can empower technicians from different areas of an operation and addresses a critical ultrasound application that boosts reliability.



### LEAKChecker

Pinpoint costly compressed air, gas, and vacuum leaks to reduce energy waste, cut operating costs, and avoid production disruptions.



### LUBEChecker

Prevent over-and under-greasing with this operator driven, ultrasound-guided solution to precision lubrication.



### TIGHTChecker

Verify the tightness integrity of an enclosed space. Ideal for heat exchangers, clean rooms, cargo containers, and more.



### TRAPChecker

Assess steam trap and valve condition to maintain optimal efficiency, reliable heat transfer, and reduced corrosion.



### HATCHChecker

Specifically, designed for maritime maintenance an shipboard applications. Ensure hatches and covers are properly sealed.



## PARTNERING WITH SDT ULTRASOUND SOLUTIONS FOR YOUR RELIABILITY TRAINING NEEDS

SDT Ultrasound Solutions has been supporting global industry for more than 50 years, helping organizations get more from their condition monitoring programs and reliability strategy. Our purpose-built solutions, training, and services empower our customers to reduce unplanned downtime, optimize maintenance schedules, and protect their mission critical equipment.

SDT Ultrasound Solutions is much more than a vendor. We are your proactive partner; here to support your reliability journey with the tools to guarantee your success.



### 50 Years of Reliability Innovation

We've helped organizations rethink how they manage reliability, sustainability, and efficiency. We've led the way in developing ultrasound-based strategies and training that empower reliability on a global scale.



### 10,000+ Professionals Certified

We've trained and certified more than 10,000 ultrasound and vibration specialists. We empower reliability teams to make data-driven decisions confidently and safely, reducing downtime and extending asset life.



### Ultrasound's Value to your Reliability Program

Ultrasound continues to grow in popularity. Thanks to its versatility of applications, fast ROI potential, and ease of implementation, ultrasound is a smart investment for reliability initiatives of all sizes.



### Instructors with Experience

Our instructors come from long careers in maintenance, reliability, and condition monitoring implementation. We strive to place trainers in front of you who are comfortable in any teaching environment.



## ISO CAT I ULTRASOUND CERTIFICATION

Our ISO CAT I Ultrasound Certification Course is a comprehensive 32-hour program that exceeds the ISO 18436-8 standard. Sixteen instructor-led modules combine theory, hands-on learning, and guided review sessions to help prepare participants for the ISO-approved final exam, administered by a qualified proctor.

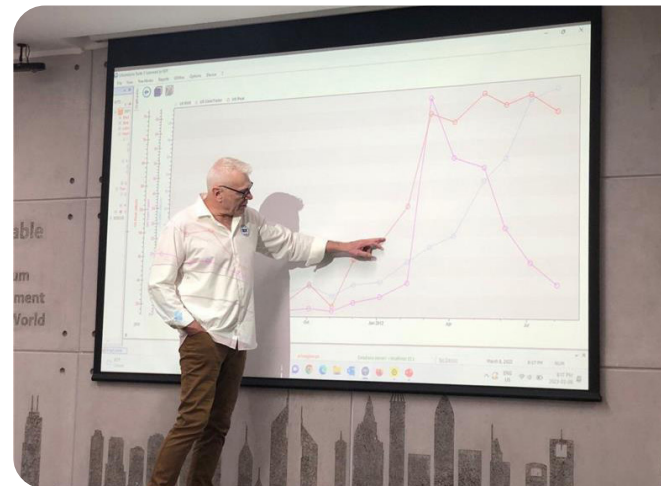
Each module explores the science of ultrasound while allowing time for practical exercises with ultrasound instruments. While SDT equipment is featured, participants are encouraged to bring their own technology.



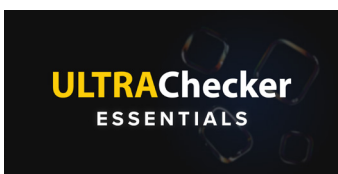
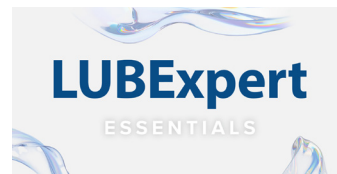
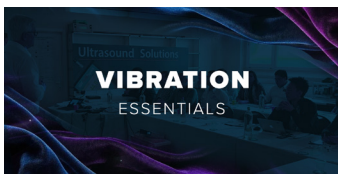
## ONLINE, ON-DEMAND CONDITION MONITORING TRAINING

SDT.Training is SDT's online learning center. It gives users access to free courses on applications and best practices, as well as exclusive product-related content for SDT customers.

The platform also offers certification courses for teams looking to formalize their knowledge and strengthen their reliability program.



These courses, and more, at **sdt.training**:



# SDT'S SENSORS

TRUSTED GLOBALLY FOR SENSITIVITY, ACCURACY AND RELIABILITY

## COMMONSENSE RANGE

These rugged and durable permanently mounted sensors are designed to integrate with standard industrial measurement systems and are supported by the ON-GUARD, ULTRASentry, and Vigilant System.



### Airborne

Available in IP40 & IP65 versions, this sensor excels at monitoring high-voltage electrical cabinets & systems.



### Contact

An IP65 rated sensor that continuously monitors remote, heavily guarded, or otherwise inaccessible critical machinery.



### Hazloc

IP-rated and C1D1-certified for safe, continuous ultrasound monitoring in hazardous industrial environments.

## CONTACT SENSORS

Structure-borne sensors measure sound pressure waves produced inside solid structures like a bearing, valve, steam trap, or gearbox.



### Resonant Threaded (RS2T):

Permanently mountable sensor for long-duration data collection.



### Resonant Needle (RS2N)

Ideal for walkaround inspections on non-magnetic surfaces.

## AIRBORNE SENSORS

Airborne sensors detect ultrasonic sound waves traveling through the air, helping inspectors locate leaks, electrical discharge, and other non-contact defects.



### EDS Sensor

Ergonomic sensor for medium to long-range leak detection.



### ULTRASense

For close-range inspection of air lines, belts/chains and more.



### Flexible Wand

Long, bendable sensor for scanning hard-to-reach areas.



### Parabolic Dish

Pinpoint-accurate 60m detection of leaks or electrical discharge.

Canada Office:  
7677 County Road 2  
Cobourg ON, K9A 4J7  
1-800-667-5325  
[HearMore@sdtultrasound.com](mailto:HearMore@sdtultrasound.com)

United States Office:  
203 Commerce Blvd,  
Anderson, SC  
1-864-568-0712  
[HearMore@sdtultrasound.com](mailto:HearMore@sdtultrasound.com)

India Office:  
2A, 6th Floor, Ecospace Business Park, AA II  
Kolkata, West Bengal, 700156  
+91 80 25043142  
[HearMore@sdtultrasound.com](mailto:HearMore@sdtultrasound.com)