

LUBExpert

GREASE BEARINGS RIGHT.



LUBExpert

A MONITORING AND MANAGEMENT SOLUTIONS FOR WORLD-CLASS LUBRICATION PROGRAMS

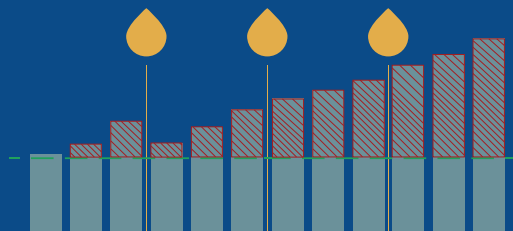
Lubrication supports the machines that keep supply chains moving, economies growing, and sustain everyday life. But when mismanaged, it compromises reliability instead of protecting it.

When reliability teams execute machinery lubrication with precision, they can expect long, trouble-free life from their bearings. But when they get it wrong, the results can be devastating.

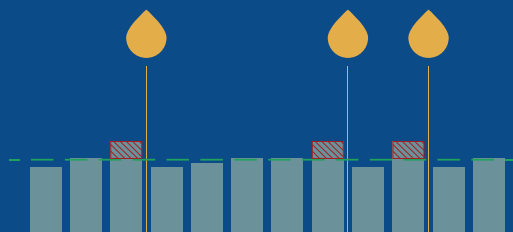
LUBExpert takes the guesswork out of machinery lubrication, helping you protect bearings, extend asset life, and keep production on schedule. LUBExpert gives reliability teams a smarter way to manage, monitor, and deliver precision lubrication with ultrasound guidance.



CALENDAR BASED



CONDITION BASED



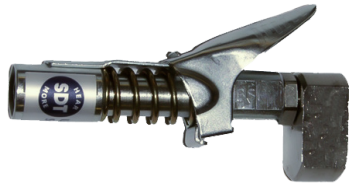
RETHINK YOUR STRATEGY

Even with the many advancements to modern manufacturing practices, many lubrication programs still rely on outdated, calendar-based schedules; greasing bearings at fixed intervals, regardless of actual need, leading to over- and under-lubrication.

Thankfully, ultrasound provides a simple, cost effective and easy to implement method for managing and monitoring lubrication tasks. By monitoring friction in real time, ultrasound-guided technicians can ensure their bearings are lubricated with precision.

When bearings receive the right amount of lubricant in the right intervals, they last longer, have fewer unexpected failures, and waste is reduced.

ADVANCE YOUR LUBRICATION PROGRAM WITH LUBEXPERT ATTACHMENTS



ACOUSTIC LUBE ADAPTER

The Acoustic Lube Adapter connects LUBExpert directly to the grease fitting, creating a sealed acoustic path for reliable signal capture. This ensures consistent data quality during every lubrication task, even in loud or complex environments.



LUBESENSE™ SENSOR

LUBESense™ is a highly accurate ultrasound sensor engineered specifically for precision machinery re-lubrication. It captures subtle changes in acoustic emissions from rotating equipment, ensuring lubrication is applied exactly when and where it's needed.



LUBRAIN™ ALGORITHM

The LUBrain Algorithm is the intelligence behind LUBExpert. By comparing real-time data to historical trends, it ensures the right amount of grease is applied to restore an optimal film.



UAS3

UAS3 is the most advanced ultrasound condition monitoring software ever. Paired with LUBExpert and second-generation SDT data collectors, it creates a seamless workflow that bridges the gap between precise data collection and advanced analysis.

Together, LUBExpert and UAS3 deliver an end-to-end solution, empowering users to efficiently assess, manage, and act on the health of their assets.

DETAILED REPORTING:

Intuitive, customizable dashboards and SDT's Lightning Report Generation simplifies complex data, streamlining communication, and informing confident decision-making.

STRUCTURED WORK ORDERS:

LUBExpert acts as a lubrication route guide, keeping track of data collection & re-lubrication points, lubricant types, grease guns, bearing specifications, work orders, and historic data.

ADVANCED ANALYSIS:

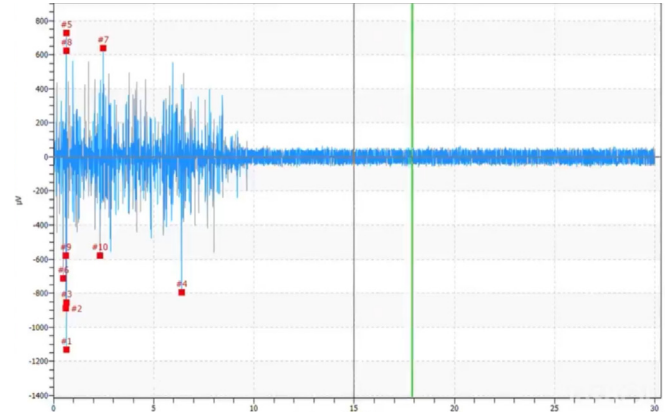
Customizable dashboards, measurement matrices, long-term trend views, high-resolution time and spectrum data, and intuitive analysis tools help optimize lubrication schedules and strengthen reliability.

DATA-DRIVEN LUBRICATION DECISIONS:

Using a combination of real-time and historical data, set precise re-lubrication intervals, manage work orders, track grease consumption, and monitor bearing health. Intelligent alerts ensure proactive maintenance by notifying you when conditions begin to degrade.

ASSET MANAGEMENT:

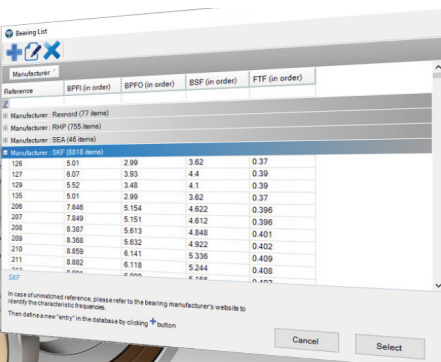
Organize thousands of assets with a seven-level hierarchical tree structure and unlimited data folders. Assign surveys, collaborate seamlessly with your maintenance team, and maintain full visibility across your entire asset database.



THE BEARING TOOLBOX

Trending bearing data with tools that provide the earliest warning signs of impending failure is an essential component of a proactive reliability program. However, most ultrasound analysis software falls short, offering only basic analysis tools that don't uncover the root causes of failure.

SDT's Bearing Toolbox forever changed ultrasound bearing analysis by adding a massive bearing database with over 50,000 references and corresponding fault frequency cursors. This level of analysis was previously exclusive to high-end vibration analysis software, but the Bearing Toolbox levels the playing field for ultrasound inspectors.





LUBExpert
ESSENTIALS



SCAN TO SEE COURSE

LUBEXPERT ESSENTIALS™ PRODUCT IMPLEMENTATION TRAINING

A complete guide to precision lubrication with the LUBExpert System. LUBExpert Essentials is a 16-module, two part course broken up into theoretical and practical knowledge. With over 20 hours of mentor lead instruction, users will acquire all the necessary knowledge, and a certification to boot, to call themselves a LUBExpert.

Theoretical & Foundational Knowledge

- **Module 1: Ultrasound Basics**
Understand the principles of ultrasound and how they apply to precision lubrication.
- **Module 2: Sensors**
Learn the role of airborne and structure-borne sensors, placement, and selection.
- **Module 3: The Eight Application Pillars**
Discover the eight core uses of ultrasound for asset reliability.
- **Module 4: SDT's Four Condition Indicators**
See how the 4CI framework connects asset condition to early signs of failure.
- **Module 5: Lubrication**
Explore the science of lubricant films and why calendar-based greasing fails.
- **Module 6: Why We Lubricate**
Build a deeper understanding of lubrication's role in protecting bearings.
- **Module 7: How Grease Works**
Follow grease through its phases and learn how poor practices destroy mechanisms.
- **Module 8: FMEA for Lube Programs**
Identify bad practices, their failure modes, and their impact on reliability.

Program Implementation & Strategy Development

- **Module 1: More Than an Instrument**
Define why lubrication matters and why strategy is essential.
- **Module 2: Implement the Strategy**
See how LUBExpert and UAS software drive outcomes beyond features.
- **Module 3: LUBExpert Practical Part 1**
Learn how LUBrain makes decisions during live lubrication tasks.
- **Module 4: LUBExpert Practical Part 2**
Hands-on lubrication workflow, from grease selection to guided application.
- **Module 5: Steer the Strategy Part 1**
Use completed task data to refine and evolve your lubrication program.
- **Module 6: Steer the Strategy Part 2**
Explore real-world lessons from thousands of lubricated bearings worldwide.
- **Module 7: Dynamic LUBExpert**
Leverage dynamic data to connect lubrication with broader condition monitoring.
- **Module 8: Implementation Challenges**
Anticipate and overcome common roadblocks to precision lubrication programs.

GENERAL

External Sensor(s)	SDT LUBESense1 only
Internal Sensor(s)	Infrared Temperature
Software Compatibility	Ultranalysis Suite 2, Ultranalysis Suite 3

Temperature Measurement

Measuring Range	- 70 to +380 °C / 94 to + 716 °F
Accuracy (0 to 50°C/32 to 122°F)	+/- 0.5°C / +/- 32.9 °F
Field of View (attenuation of 50%)	10 °

System

Operating System	Linux
CPU	ARM9
Data Memory	256 Mb

Data Collector

Memory Capacity	More than 10,000 data distributed over more than 10,000 measurement locations
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Signal Processing

Dynamic range	109 dB
Resolution	16 bits
Sampling rate	256 kHz
Response time	< 10 ms

Mechanical Characteristics

Display	Graphic Backlit LCD (128 x 64)
Housing	Extruded Aluminum, Shockproof Rubber Protection
Dimensions	226 x 90 x 40 mm / 8.9 x 3.54 x 1.57 in (L x W x H)
Weight	830 g / 29.3 oz
Operating and Storage Temperature	- 15 °C to + 60 °C / 14 °F to 140 °F
IP Rating	IP 40

Ultrasound Measurement

Measuring Range	- 15 to 120 dBμV
Resolution	0.1 dBμV
Signal to Noise Ratio	- 6 dB
Bandwidth	36.1 to 40.4 kHz
Condition Indicators	RMS, maxRMS, Peak, Crest Factor
Heterodyne Sampling Rate	8000 Samples/s (dynamic version)

Power

Battery	Rechargeable NiMH battery
Nominal Capacity	4.4 Ah
Autonomy	+ 8 Hours
Recharge Time	6 Hours
Battery Charger	110 - 230 VAC, 50/60 Hz

Headphone

Noise Reduction Rating	25 dB
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