



Welcome to Real-Time Lubrication Intelligence. Sensei is a system of Sensing devices connected via a wireless network that delivers valuable intelligence about what's happening inside your critical equipment. Back by the experts at Trico to guide you toward maximum uptime, efficiency and confidence.



**No more wondering. No more worrying.
No more wasting time.**

Get to know Sensei® OLEX - the only system that helps you keep constant watch on the lubricant inside your equipment in real time. Now, instead of doing the typical lube routes, unnecessary maintenance and emergency service...your team can move more proactively and efficiently.

Sensei OLEX is quick to install. Easy to expand. And brings you everything you need to quickly identify, solve and optimize lubrication issues and keep your equipment running.



Provides real-time oil level
in critical equipment from
anywhere



Monitors fluctuations in oil
consumption due to
unnoticed leaks



Trends historically
problematic equipment
and alerts on bad actors



Flags concerning
conditions to take the
necessary corrective action

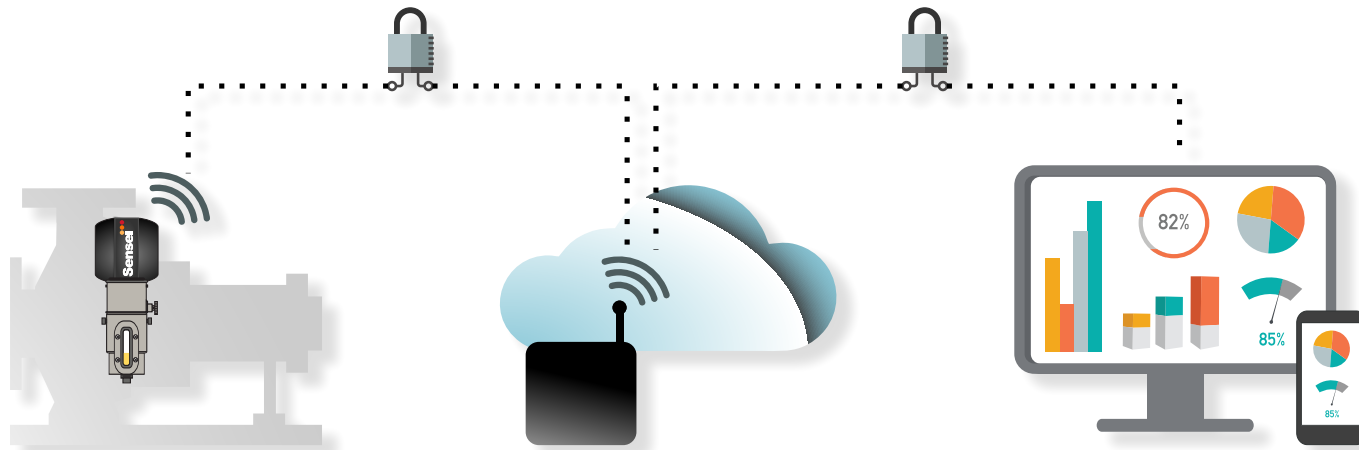


Predicts days remaining
until empty oiler to
prevent low levels



Allows your staff to focus on
high priority tasks instead of
making unnecessary trips

The SENSEI OLEX Difference...Always on. Always communicating.



Sensing Device

- ✓ Sensei OLEX installs on your equipment and instantly sends data streams from sensors to the cloud
- ✓ Continuously monitors key parameters at your machine

Network

- ✓ The gateway/repeater streams data to the cloud
- ✓ Bringing you real-time data from across your facility

Intuitive Dashboard

- ✓ Intuitive dashboard provides instant access to real-time equipment and lubricant health
- ✓ Clear guidance to help you take action and ensure reliability and productivity

Improve Reliability

Wireless infrared sensors help you know immediately when and where there's a lubrication issue - before it turns into a serious problem.

Save Time

With your equipment data at your fingertips, your team no longer has to go from equipment to equipment checking status.

Gain Powerful Insight

Check on key parameters around the clock and use the analytics to recommend preventive steps and drive performance improvements

POWERFUL

Robust dashboard with charts alerts, trending, and overview

SIMPLE

Quickly access data to make insightful decisions

SECURE

Only allow people you want to have access to your data

INTELLIGENT

Around the clock monitoring, analyzing, and trending of data

FLEXIBLE

Easily connect additional equipment to your network

The Sensing Device



Lubricant Monitoring

Continuous infrared monitoring of oil level and ambient temperature



Ongoing Insight

Continuously monitors and transmits key parameters to your network via Wi-Fi



Simple to Integrate

Sensing devices install in minutes at your equipment



SENSEI OLEX - Sensing Device

Bringing wireless sensing technology to your lubrication processes.

Power	Internal: 2/3 A (replaceable)
Mechanical	
Dimensions	5" x 3.25" x 4"
Material	Housing: PC/ABS, Seal: TPE
Integration	Sensor Mounted to #5 (8 oz) Opto-Matic Oiler
Oil Level Measurement	1/8" Increments
Network	
Wireless	2.4GHz - Low power network based on 802.15.4
Wireless Range	100 m Indoor Line of Sight
Protocols	MQTT
LED	Provides Feedback on Connection to Network
Environmental	
Installation	Indoor or Outdoor (Ingress Protection - IP65)
Operating Temperature	-4° to 122°F (-20° to 50°C)
Wireless Security	
	Device Authentication
	AES-128 Encrypted Network Joining Scheme
	Pre-Shared Key and Rotating Session Key
	AES-128 Encrypted Secured Data Transmission
Certifications	
ETL	Class I, Zone 0 ,AEx ia IIC T4 Ga Class I, Division I, Groups A, B, C, D T4 Ex ia IIC T4 Ga -20°C ≤ Ta ≤ 50°C
IECEX	Ex ia IIC T4 Ga -20°C ≤ Ta ≤ 50°C
ATEX	Ex II 1G Ex ia IIC T4 Ga -20°C ≤ Ta ≤ 50°C
UKEX	Ex II 1G Ex ia IIC T4 Ga -20°C ≤ Ta ≤ 50°C

Don't be left in the dark about potential equipment failures or opportunities for performance improvement. SENSEI OLEX lets you know what's going on in your equipment, 24-7.

The Network



Real-Time

Collects real-time lubricant data from sensing devices via Wi-Fi



Secure

Securely receives data and transmits it to the cloud



Gateway - The Network

The gateway is the hub of the system. It receives data from your equipment and transmits the data to your dashboard. It requires an Internet connection through your internal system or packaged with a cellular router.

Power	Source: 12 VDC or 24 VDC Max Current: 1-2 A Max
Mechanical	
Dimensions	6" x 6" x 2"
Material	Powder Coated Steel
Mounting	2" Diameter Magnet
Network	
Ethernet	10/100 Mbps
Wireless	2.4GHz - Low power network based on 802.15.4
Wireless Range	100 m
Devices	250 Supported per Network
Environmental	
Installation	IP54, Pollution Degree 3, Outdoor and Indoor
Operating Temperature	-4° to 104°F (-20° to 40°C)
Wireless Security	Device Authentication AES-128 Encrypted Network Joining Scheme Pre-Shared Key and Rotating Session Key AES-128 Encrypted Secured Data Transmission
Certifications	
ETL	Class I, Zone 2, AEx ec IIC T4 Gc Class I, Division 2, Groups A, B, C, D T4 Ex ec IIC T4 Gc -20°C ≤ Ta ≤ +40°C
IECEX	Ex ec IIC T4 Gc
ATEX	Ex II 3 G Ex ec IIC T4 Gc -20°C ≤ Ta ≤ +40°C
UKEX	Ex II 3 G Ex ec IIC T4 Gc -20°C ≤ Ta ≤ +40°C

With your crucial lubricant data at your fingertips, your team can move more productively, focusing only on machines that need attention - instead of doing the typical lube routes, unnecessary maintenance and emergency service.

The Network



Expandable

Expands easily to fit any size facility with multiple pieces of equipment



Repeater - The Network (optional)

Intermediate network point between the Sensing Devices and the Gateway. Only required if you have more than 64 devices on the system and/or the distance from the gateway to any sensor exceeds 250 feet.

Power	Source: 12 VDC or 24 VDC Max Current: 1-2 A Max
Mechanical	
Dimensions	6" x 6" x 2"
Material	Powder Coated Steel
Mounting	2" Diameter Magnet
Network	
Wireless	2.4GHz - Low power network based on 802.15.4
Devices	Connection to 64 Devices
Protocols	MQTT
LED	Indicates Connection to Coordinator
Environmental	
Installation	IP54, Pollution Degree 3, Outdoor and Indoor
Operating Temperature	-4° to 104°F (-20° to 40°C)
Wireless Security	
	Device Authentication
	AES-128 Encrypted Network Joining Scheme
	Pre-Shared Key and Rotating Session Key
Certifications	
ETL	Class I, Zone 2, AEx ec IIC T4 Gc Class I, Division 2, Groups A, B, C, D T4 Ex ec IIC T4 Gc -20°C ≤ Ta ≤ +40°C
IECEX	Ex ec IIC T4 Gc
ATEX	Ⓔ II 3 G Ex ec IIC T4 Gc -20°C ≤ Ta ≤ +40°C
UKEX	Ⓔ II 3 G Ex ec IIC T4 Gc -20°C ≤ Ta ≤ +40°C

Bringing you accurate, real-time lubricant data from across your facility.

Intuitive Dashboard

The Intelligence - Sensei Dashboard

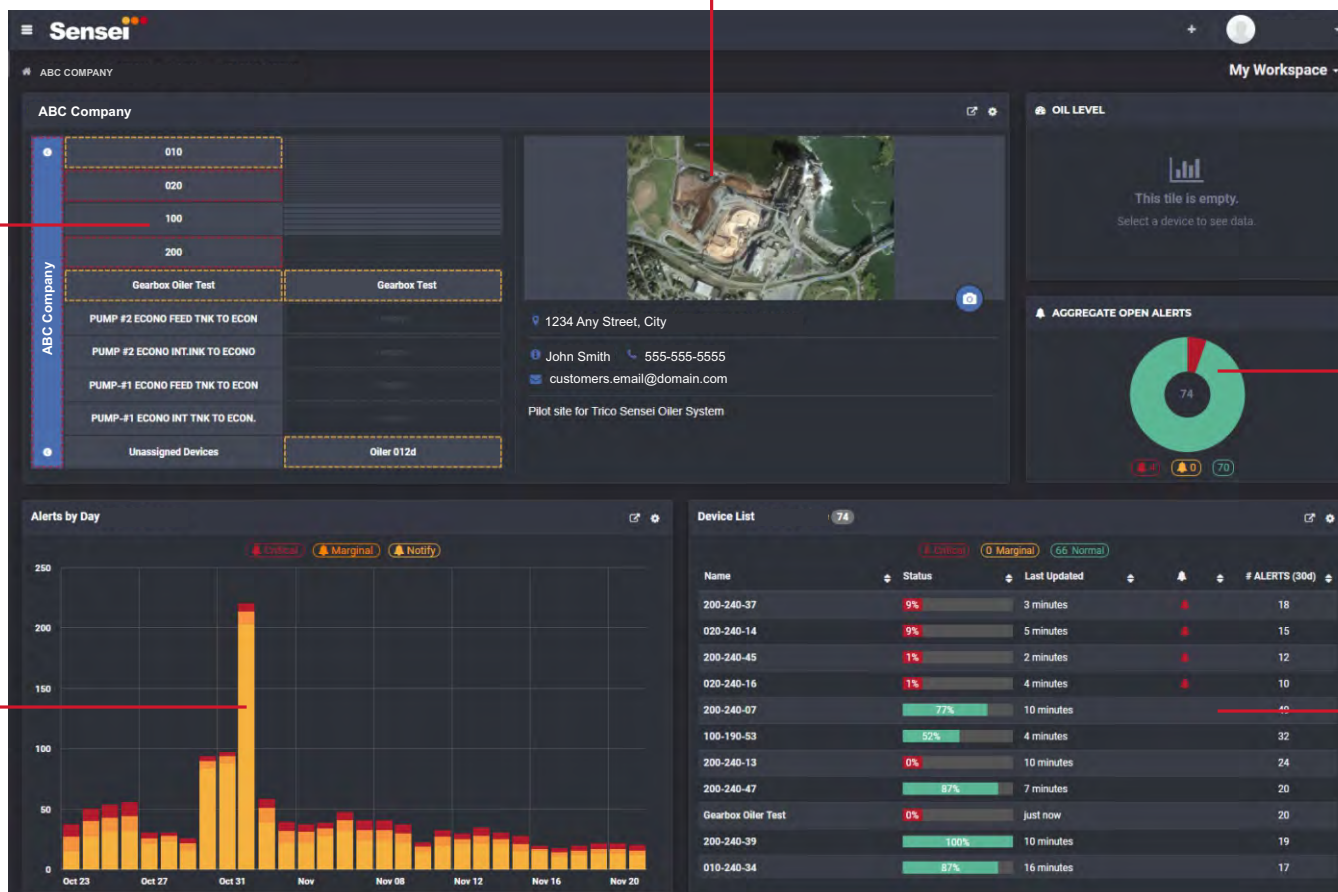
Your intuitive, web-based home for real-time monitoring.
Fully configurable to meet your specific requirements.

Photo

Include a photo of your
plant location

Equipment Hierarchy

Put your most crucial
or challenging
equipment at the top



Aggregate Status

Overview of all your
sensors

Device List and Status

The latest readings
from each sensing
device

Device List and Status

The latest readings
from each sensing
device

PLANT OVERVIEW

Helping you understand your data, what it all means for your equipment and how to use it to your advantage.

Intuitive Dashboard

The Intelligence - Sensei Dashboard

Your intuitive, web-based home for real-time monitoring.
Fully configurable to meet your specific requirements.

Equipment Hierarchy

Put your most crucial
or challenging
equipment at the top

Photo

Include a photo of
your equipment

Oil Level

Real-time oil level in
Opto-Matic reservoir

Real-Time Alerts

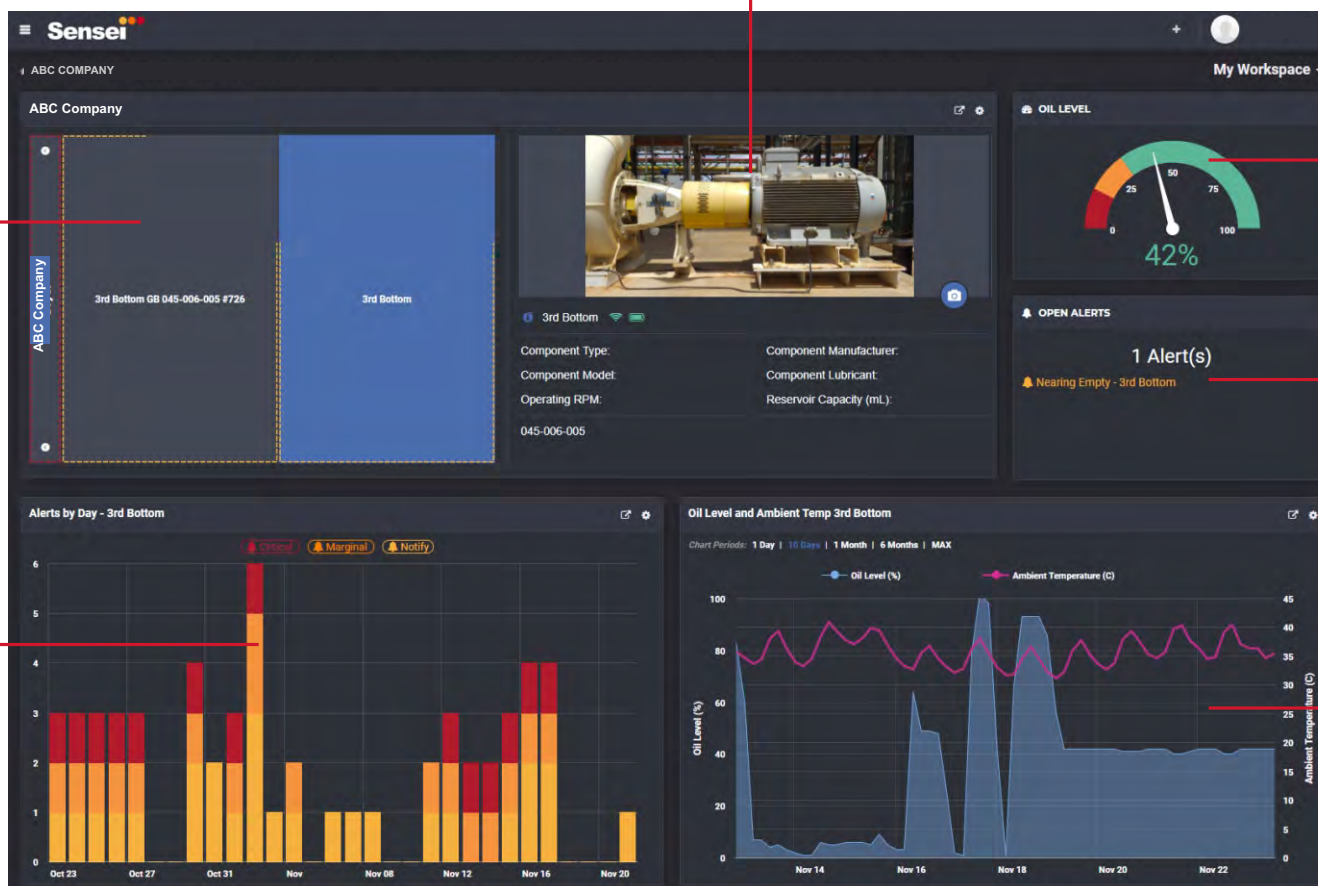
Instantly identify
equipment problems
so you can prioritize
lube routes

Alert History

Monitor equipment
with ongoing issues;
can be used to adjust
alert thresholds as
necessary

Trends

Oil level and
temperature trending
and history



SYSTEM OVERVIEW

The Sensei dashboard helps you uncover trends, enabling you to fine-tune equipment performance.

SENSEI OLEX Real-Time Lubrication Intelligence...the Possibilities

Increase Equipment Availability

Identify machines that need attention, so you can directly go to a problem instead of making unnecessary rounds.

Uncover Bad Actors

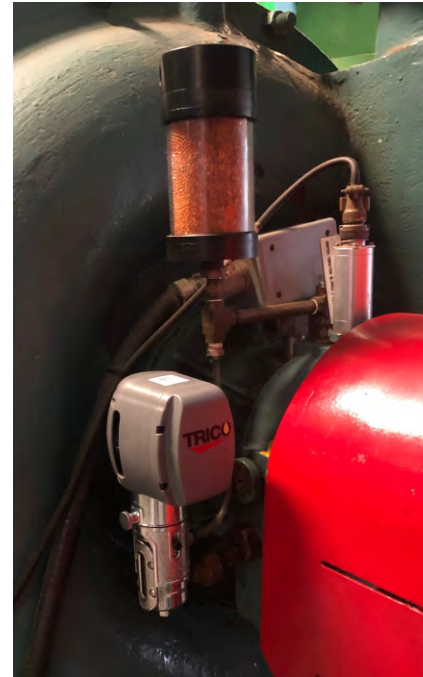
Uncovering trends, enabling you to continuously fine-tune equipment performance and identify habitual bad actors.

Anticipate Failures

Anticipate failure risks, so you can prevent problems before they occur.

Trend Historical Data

Benchmark and tracking data, to hold each other accountable for making real, sustainable improvements.



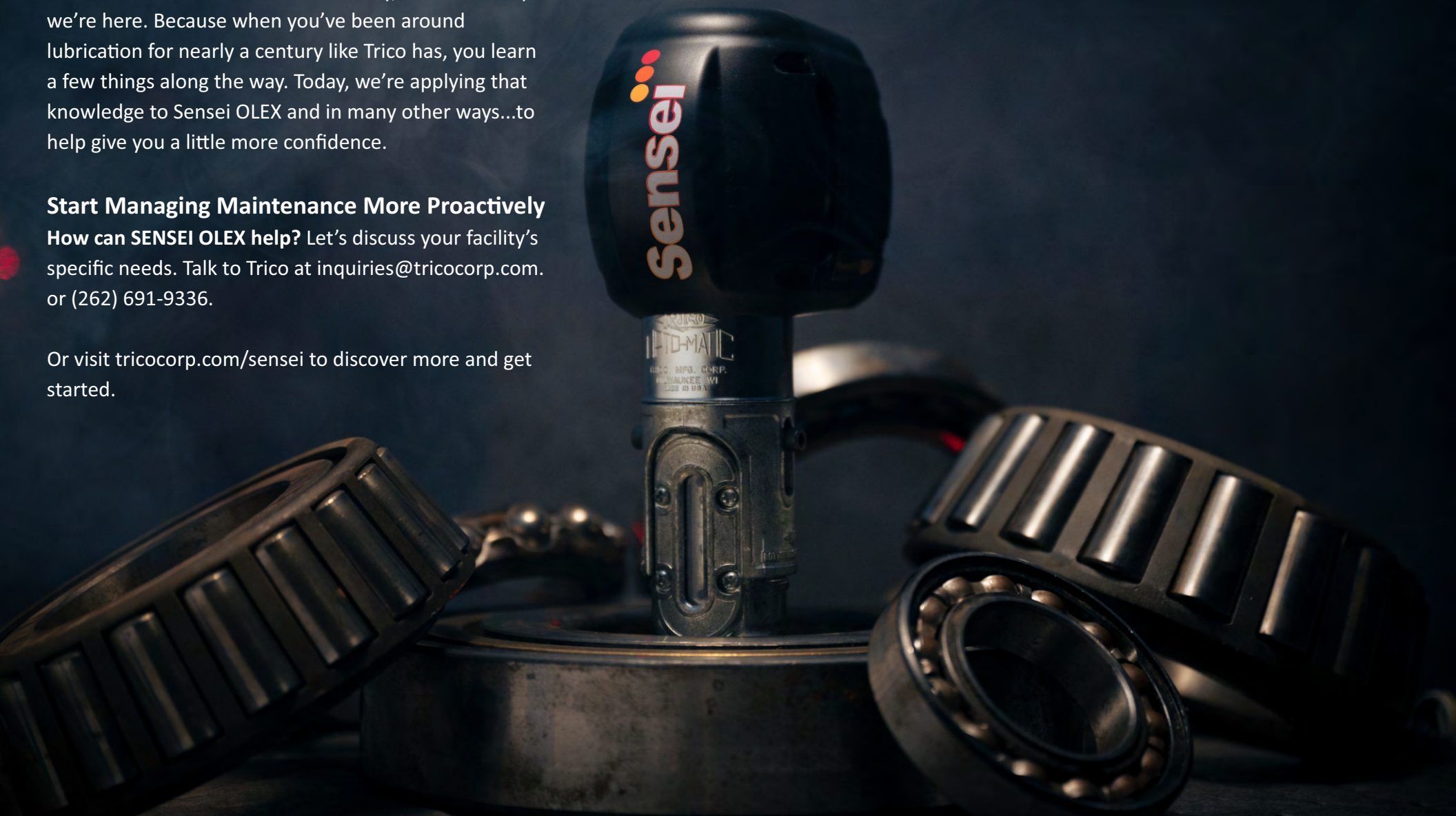


Is your equipment at risk from poor lubrication? If you're like many out there, you may not know for sure. That unknown can cause a lot of worry, but that's why we're here. Because when you've been around lubrication for nearly a century like Trico has, you learn a few things along the way. Today, we're applying that knowledge to Sensei OLEX and in many other ways...to help give you a little more confidence.

Start Managing Maintenance More Proactively

How can SENSEI OLEX help? Let's discuss your facility's specific needs. Talk to Trico at inquiries@tricocorp.com. or (262) 691-9336.

Or visit tricocorp.com/sensei to discover more and get started.



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