

**PREDICT.  
PROTECT.  
PRODUCE.**

 **PREDICTIVE MAINTENANCE**  
**BY BCR**



# PREDICT.

## **PREDICTIVE MAINTENANCE:**

Stay ahead of potential breakdowns and disruptions by addressing them proactively, not reactively.

# PREDICT.

# PROTECT.

## **PREDICTIVE MAINTENANCE:**

Lowers costs by reducing unplanned downtime.

# PROTECT.

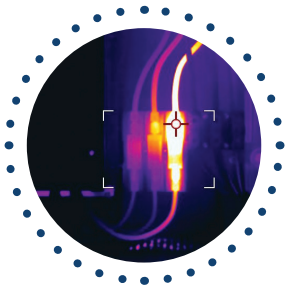
# PRODUCE.

## **PREDICTIVE MAINTENANCE:**

Improves performance and extends equipment life.

# PRODUCE.

# Predictive maintenance can reduce manufacturing machine downtime by **30–50%** and increase machine life by **20–40%\***



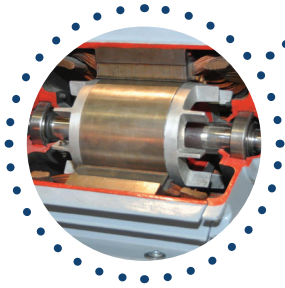
## Thermal Imaging

A Thermal Imaging Camera takes infrared temperature measurements over a whole 2D image. Heat is often one of the earliest signs of equipment damage and/or failure, meaning that Thermal Imaging can be one of the most useful tools for a predictive maintenance plan. Taking regular temperature readings of equipment and tracking changes can give early indicators before a failure occurs. Thermal Imaging is used to identify "hot spots" in electrical equipment, faulty terminations in electrical circuits, fuses at or near their rated capacity, and air leaks in insulated areas.



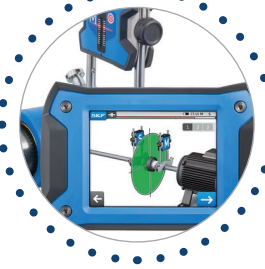
## Ultrasonic Testing

Ultrasonic testing uses a range of non-destructive testing (NDT) techniques that send ultrasonic waves through materials to uncover possible defects or damage that would otherwise not be able to be seen from a visual inspection. This testing method is very effective and does not damage the object or material that is being tested in the process. An ultrasonic tester emits short pulses of waves into a material and when it hits defects or anomalies, the waves measure different intervals showing there is an underlying issue in the material. Ultrasonic testing is crucial in identifying issues that would otherwise go undetected and possibly cause significant downtime.



## Motor Circuit Analysis

Motor Circuit Analysis (MCA) is an effective method for assessing the condition of an electric motor. This analysis is able to detect imbalances in voltage, degradation of insulation, stator shorts, rotor faults, etc. Many believe that using a Megohmmeter will suffice for motor testing, however it will only detect faults to ground, giving only a small piece of a motor's overall health. MCA will test and track several data points simultaneously providing a much clearer picture of a motor's health. This gives operators more confidence in their equipment and helps them strategize for planned downtime.



## Shaft Alignment

Shaft alignment is very important in preserving the longevity of your shaft driven unit. Improper shaft alignment is responsible for up to 50% of all rotating machinery breakdowns. With a misaligned shaft it can cause excessive heat, wear to seals and couplings, and premature bearing failure in both the motor and the shaft driven unit. There are several methods to achieve proper shaft alignment (optics, straight edges, dial indicators, etc.) but laser alignment has become the method of choice. Laser alignment is done by attaching a sending unit to one shaft and a receiver unit to the other, then making the adjustments it displays on the screen. This method is fast and accurate to ensure proper shaft alignment.



## Oil Analysis

Oil analysis identifies potential component failures while ensuring equipment is properly lubricated. The lab will identify any contaminants within the oil and based on the contaminants found, it can tell many hidden things about what may be going on inside the equipment. Signs of metal in the oil could indicate abnormal wear to gears or bearings, dirt or water could mean a failure seal. Oil analysis is one of the simplest predictive maintenance actions that can be done to keep equipment in good running order.

Let us help you maximize your uptime and minimize your downtime:



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