

# Electrical Power



# Critical Asset Monitoring



Avoid the **three main failure modes** of electrical power critical assets



## SOLUTION

IntelliSAW CAM platform offers real-time, continuous monitoring with non-invasive, wireless, passive sensors.

Asset Failure	Measurement
Poor connections	Temperature
Insulation Degradation	Partial Discharge
Air Dielectric Breakdown	Humidity

## APPLICATIONS

Critical Assets in the 1kV - 60kV range:

- Switchgear
- Bus Ducts
- Generator Circuit Breakers
- Transformers
- Rectifier Stacks
- Capacitor Banks

82% of Asset breakdown / loss are due to random failures.

Majority of currently installed critical assets are 25+ years old and beyond design life.

Nearly 20% of refinery power disruptions are the result of electrical equipment failures.

One arc flash incident could cost up to \$15 million including employee health care, asset replacement, and lost production.

## HOW IT WORKS

### Temperature Monitoring

Wireless, passive Surface Acoustic Wave (SAW) sensors are directly mounted to critical measurement locations while antennas are mounted to the walls of the asset. RF interrogation signals between monitoring unit and sensors are used to determine the temperature.

### Partial Discharge Monitoring

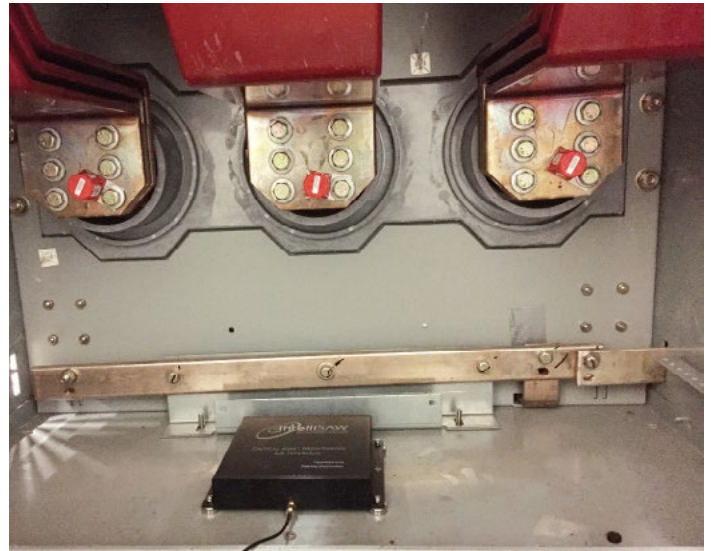
Ultra High Frequency (UHF) antennas acquire electromagnetic radio waves in the 50 MHz to 2 GHz range. Data is analyzed against power line frequency to determine surface discharge (corona) and internal discharge (PD) levels.

### Humidity Monitoring

Rugged humidity and ambient temperature sensors mounted in asset enclosures or bus ducts are wired back to a monitoring unit.

### Data Analysis & System Integration

Complex data is distilled down to trendable, actionable information. Data can be viewed locally on an HMI and transmitted to a SCADA system or historian for recording and reporting.



IntelliSAW system deployment  
ROI is less than 1 year

INCREASE PROFITABILITY	INCREASE RELIABILITY	INCREASE SAFETY
Reduce manual rounds / truck rolls	Optimize asset performance	Predict and prevent
Lower maintenance cost	Fast identification of problems	Improve response time
Minimize downtime	Proactive planning and repair	Monitor limited access areas
Extend life of the asset	Avoid catastrophic failures	Keep employees, facility, community, and environment safe