KRYFS
TECHNOLOGIES PRIVATE LIMITED

SMART ASSET MONITORING

TRANSFORMING POWER DISTRIBUTION WITH BOLA

KRYFS Technologies Pvt Ltd

Why
Asset Monitoring is Required?

Asset monitoring tracks and analyzes the condition of critical equipment using sensors, software, and data analytics. In industries like power distribution, it observes parameters such as temperature, vibration, and energy consumption in assets like transformers, switchgear, feeder pillars, and panels.

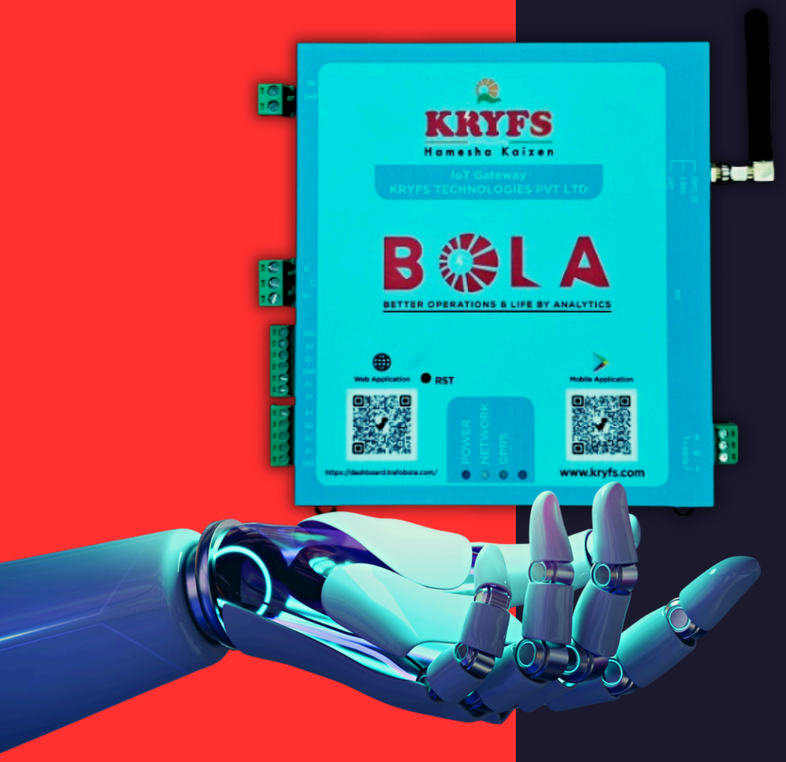
- Monitors critical equipment to ensure reliable and safe operations.
- Prevents failures by predicting issues before they occur.
- Ensures assets operate within safe parameters and comply with industry standards.
- Provides actionable information for efficient maintenance and operation.

BENEFITS

- INCREASED RELIABILITY
- COST EFFICIENCY
- ENHANCED SAFETY
- OPTIMIZED PERFORMANCE
- COMPLIANCE AND SUSTAINABILITY

INTRODUCING BOLA MONITORING SOLUTION

BOLA (Better Operation and Life by Analytics) is an advanced asset monitoring solution designed to optimize the performance and lifespan of critical infrastructure. Patented by the Government of India, BOLA uses cutting-edge technology to provide real-time monitoring, predictive analytics, and proactive maintenance insights for power distribution systems, including transformers, switchgear, feeder pillars, and LT panels.



REAL-TIME MONITORING

Continuously tracks the health and performance of critical assets.

PREDICTIVE ANALYTICS

Uses historical and real-time data to predict potential failures

INSTANT ALERTS AND NOTIFICATIONS

Sends real-time alerts for abnormal conditions or equipment malfunctions.

CUSTOMIZABLE DASHBOARDS

Provides a user-friendly interface to monitor multiple assets at once.

Power Transformer

Distribution Transformer

Inverter Duty Transformer

Hermetically Sealed Transformer

TRANSFORMERS WE CAN MONITOR THROUGH BOLA

Power Transformer, Distribution Transformer (Oil Filled), Inverter Duty Transformer (Generation Transformer), & Dry Type Transformer (Hermetically Sealed Transformer).

DG Set

Switchgears

Feeder Pillars

Voltage Stabilizers

ASSETS WE CAN MONITOR THROUGH BOLA

DG Set (Diesel Generator Set), Switchgear, Feeder Pillars, & Voltage Stabilizer

Reasons Behind Failure of Power Transformer

- **Overloading**

  Operating beyond capacity leads to overheating and insulation breakdown

- **Insulation Degradation**

  High temperatures, moisture, or electrical stresses degrade insulation, causing faults.

- **Mechanical Stress**

  Electrical surges damage insulation and cause internal faults

- **Contamination of Transformer Oil**

  Pollutants in oil reduce its cooling and insulating effectiveness, leading to overheating.

- **Lack of Maintenance**

  Vibration and thermal expansion can damage transformer components or cause misalignment.

How the BOLA Monitoring Solution Helps Overcome POWER TRANSFORMER Issues

BOLA Monitoring Solution provides comprehensive monitoring across a wide range of critical parameters, allowing for early detection of issues, preventing failures, and ensuring optimal transformer performance.

Key parameters monitored by BOLA include:

- **Oil Temperature**
- **Winding Temperature**
- **Oil Level**
- **Ambient Temperature & Humidity**
- **Basic Parameters (V, I, PF)**
- **Energy Parameters (kWh, kVAh, kVARh)**
- **THD for Current & Voltage (R, Y, B)**
- **LT Terminal Temperature**
- **Oil Moisture (ppm)**
- **HV Cable Box Humidity & Temperature**
- **LV Cable Box Humidity & Temperature**
- **Tap Position in OLTC Transformers**
- **OLTC Oil Level & Oil Moisture (ppm)**
- **PRV, Buchholz, OSR, RRRV, S6 Relay Tripping, NIDS Status**
- **Fan Status (1 to 6)**
- **Automatic Alerting System**

Reasons Behind the Failure of Distribution Transformers

DRY-TYPE TRANSFORMER

Use air or inert gases for cooling, making them ideal for indoor applications or confined spaces where oil might be hazardous.

- Overheating
- Dust & Contaminants
- Moisture Absorption
- Vibration & Mechanical Stress
- Electrical Surges & Voltage Spikes

OIL-FILLED TRANSFORMER

Utilize oil for insulation and cooling, allowing efficient heat dissipation and better performance in outdoor and high-load environments.

- Oil Leaks & Contamination
- Overloading
- Moisture Ingress
- Insulation Degradation
- Poor Maintenance

How BOLA Monitoring Solution Helps Overcome DISTRIBUTION TRANSFORMER Issues

The BOLA Monitoring Solution actively tracks and analyzes key parameters for distribution transformers, offering early fault detection and preventive maintenance to ensure reliability which extends asset life.

Key parameters monitored by BOLA include:

Oil filled Transformer

- Oil Temperature
- Winding Temperature
- Oil Level Monitoring
- Oil Moisture (ppm)
- Ambient Temperature and Humidity
- Humidity and Temperature in HV Cable Box
- Basic Parameters (V, I, PF)
- Energy Parameters (kWh, kVAh, kVARh)
- THD (Total Harmonic Distortion)
- Health Index Calculation
- Protection Relays
- HT and LT Terminal Temperatures
- Tap Position of OLTC

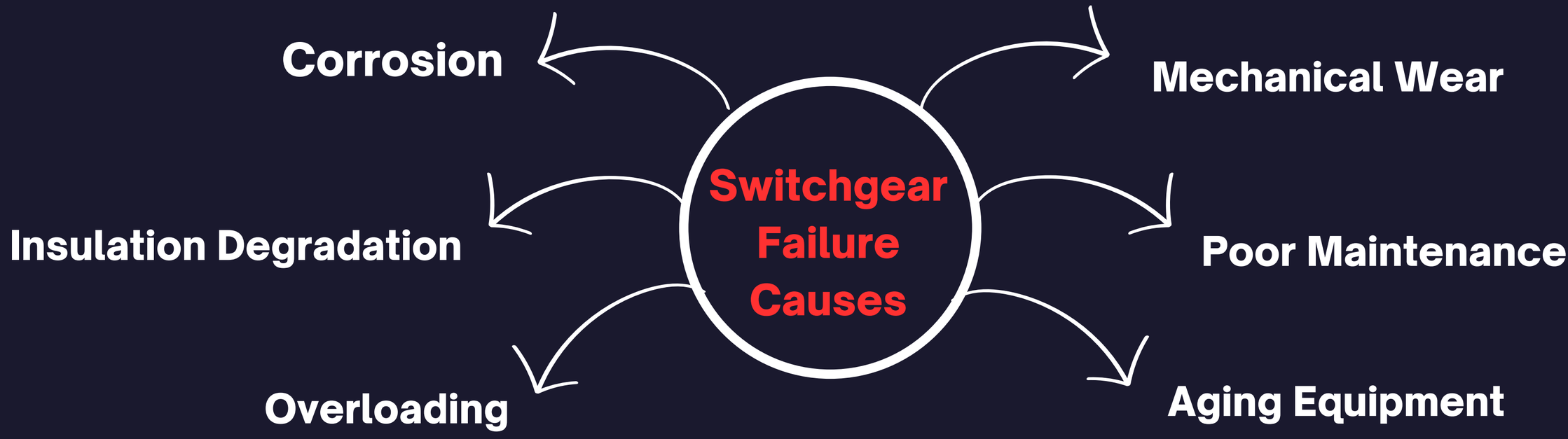
Dry Type Transformer

- Winding Temperature (LV – R, Y, B and HV – R, Y, B)
- Core Temperature
- HT and LT Terminal Temperature
- Ambient Temperature and Humidity Inside Body
- Humidity in HV Cable Box
- Basic Parameters (V, I, PF)
- Energy Parameters (kWh, kVAh, kVARh)
- THD (Total Harmonic Distortion)

Reasons Behind the Failure of Switchgear

Switchgear controls, protects, and isolates electrical equipment, ensuring safe distribution and fault detection to maintain power system stability.

Switchgear, commonly found in substations and industrial setups, includes circuit breakers, fuses, isolators, and relays. These components are designed to manage various voltage levels and ensure safe operation.



How BOLA Monitoring Solution Helps Overcome SWITCHGEAR Issues

BOLA Monitoring Solution helps prevent switchgear failures by continuously tracking key operational and environmental parameters, allowing for early detection of potential issues, optimizing performance, and ensuring reliability.

Key parameters monitored by BOLA include:

- **Basic Parameters (V, I, PF)**
- **Energy Parameters (kWh, kVAh, kVARh)**
- **THD for Current & Voltage (R, Y, B)**
- **Ambient Temperature & Humidity**
- **Oil Level**
- **Oil Temperature**
- **Humidity in Cable Compartment**
- **Temperature in Cable Compartment**

Reasons Behind the Failure of Stabilizer

A stabilizer is a device that maintains a consistent output voltage, protecting sensitive equipment from voltage fluctuations like surges, drops, or spikes, ensuring their safe and efficient operation.

1. Overloading
2. Voltage Spikes/Surges
3. Environmental Factors
4. Lack of Maintenance

How BOLA Monitoring Solution Helps Overcome STABILIZER Issues

BOLA ensures stabilizer reliability by offering real-time data, predictive analytics, and proactive maintenance. By monitoring key parameters like voltage, load, and temperature, it prevents issues such as overloading and transformer failure. Automatic alerts and diagnostics enable early fault detection and consistent performance

Key parameters monitored by BOLA include:

- Oil Temperature
- Winding Temperature
- Oil Level
- Ambient Temperature & Humidity
- Basic Parameters (V, I, PF)
- Energy Parameters (kWh, kVAh, kVARh)
- THD for Current and Voltage (R, Y, B)

Our Goals

Performance

Enable industries to achieve optimal performance and reliability of electrical assets through continuous monitoring and intelligent data insights.

Efficiency

Promote energy efficiency and sustainability by leveraging advanced monitoring tools and analytics for smarter decision-making.

Safety

Ensure long-term operational safety and minimize downtime with proactive asset management solutions that identify issues before they occur.

Company Overview

KRYFS Technologies Pvt Ltd.

Founded

Established in 2021 with a vision to transform asset monitoring and management.

Patent Recognition

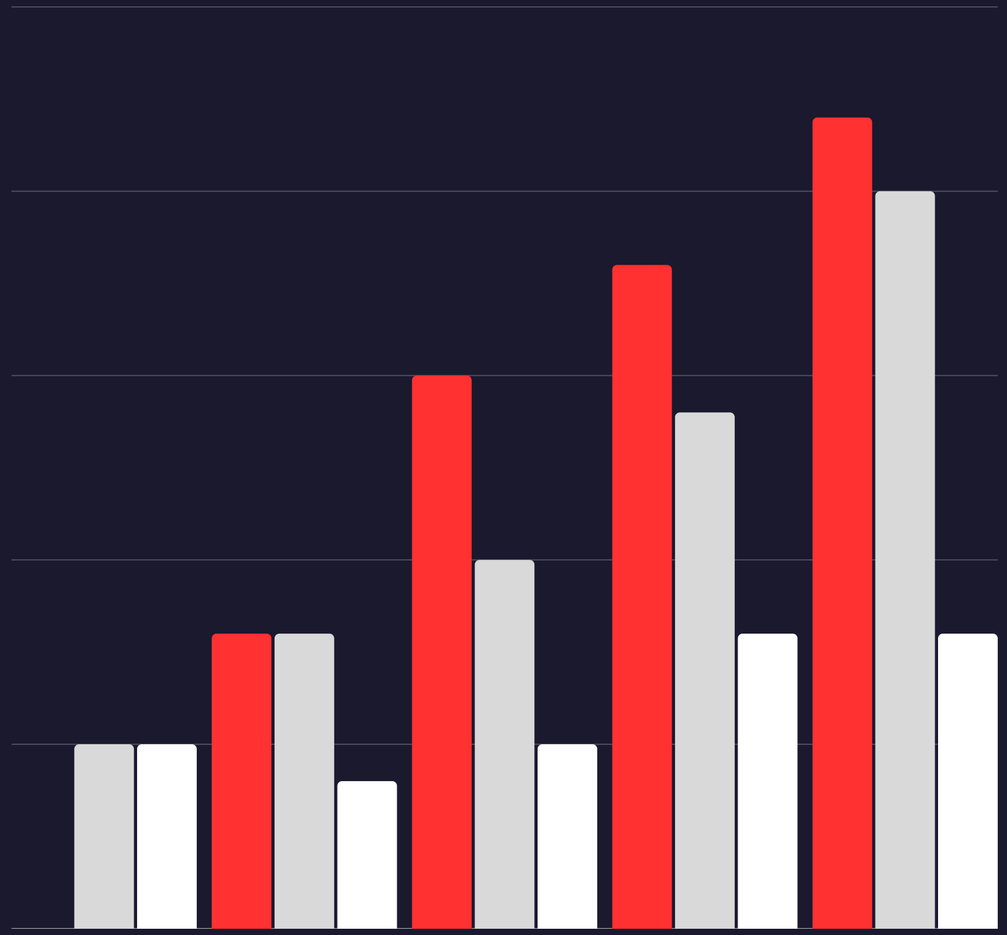
Our innovation was awarded a patent by the Government of India.

Government Utility Orders

We have solidified our market position with prestigious orders from leading government utilities and successful installations across 250+ private companies, including major players like TATA, Torrent, and India Power.

MTCTE Certification Under TEC

Proudly certified by the Telecommunication Engineering Centre (Ministry of Telecommunications) for upholding the highest quality standards.



Brands Who TRUST US!

Leading companies trust us for reliable, cutting-edge solutions that optimize asset performance, ensure safety, and drive efficiency.

www.kryfstechnologies.com

Meet Our **Best Team**

Ganesh Patil, GM

Leading innovation and driving a dedicated team toward excellence.

Lovekush Sharma, AGM

Spearheading hardware coding and R&D to deliver cutting-edge solutions in IIoT.

Rakesh Bhamare, SDM

Overseeing all aspects of software innovation and ensuring seamless integration in IIoT solutions.

Chitra Rothe, CRM

She develops and maintains strong customer relationships while driving long-term growth.

THANKS
FOR WATCHING

We appreciate your time and attention stay connected for more updates!

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