



# BOLA

BETTER OPERATIONS & LIFE BY ANALYTICS

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LET YOUR TRANSFORMER SPEAK

AN IOT ENABLED DISTRIBUTION TRANSFORMER  
REMOTE MONITORING SOLUTION

Around 20% of distribution transformers fail every year in India, compared to 2 - 3% in developed countries.

## WHY DO TRANSFORMERS FAIL?

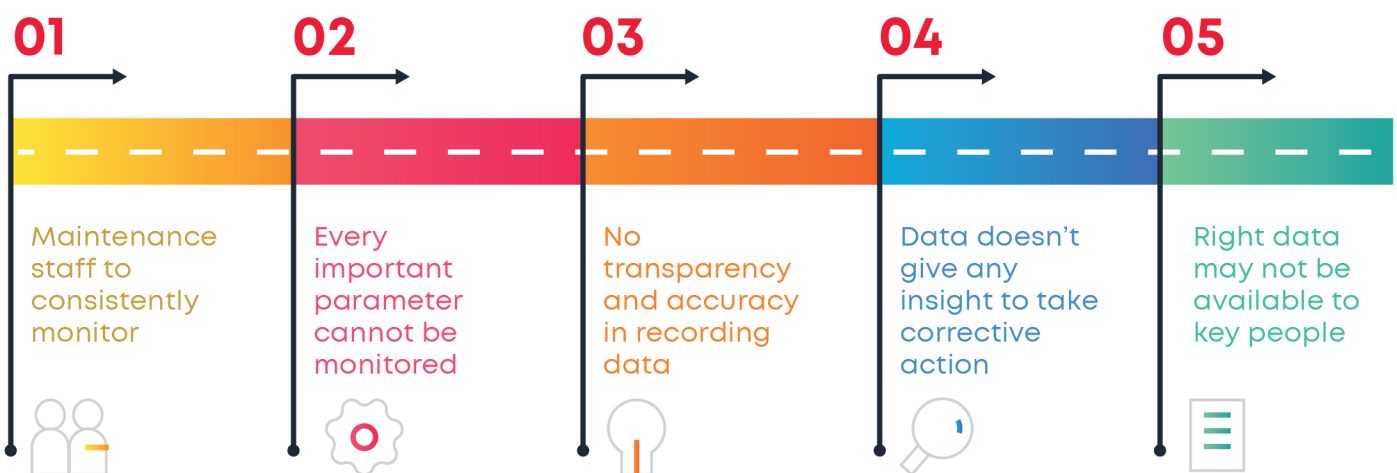


## Can this be avoided?

The answer is yes, most of these can be avoided with proactive monitoring and maintenance.

## Then why are these failures not prevented?

*Because the current practice of manual monitoring involves...*



But now these failures can be prevented without the problems of time-based manual maintenance and monitoring

# INTRODUCING BOLA

An IoT based distribution transformer remote monitoring solution

BOLA, our IoT based low-cost Distribution Transformer Remote Monitoring solution, monitors transformer's vital parameters online from any location in real time. It will diagnose & send alerts/notifications on SMS & Email whenever there is any abnormality sensed in the transformer. This allows maintenance to be scheduled and corrective action to be taken before the failure actually happens. The risk of failure is estimated using alarm rules and detection of deviation from a reference value or threshold (e.g., oil and winding temperature).

## OVERLOAD PROTECTION

- Voltage, Current, Frequency
- Active Power, Apparent Power
- Unbalanced Loading, PF

## THERMAL PROTECTION

- Oil Temperature
- Winding Hotspot Temperature

## COOLING PROTECTION

- Low & High Oil Level
- Ambient Temperature

## OTHERS

- Ambient Humidity
- GPS Location



Remote monitoring of 3-phase currents, oil temperature, winding temperature, oil level, harmonics, etc.



Alarm on overload, unbalanced loading, low pf, low oil level, high oil temperature, etc.



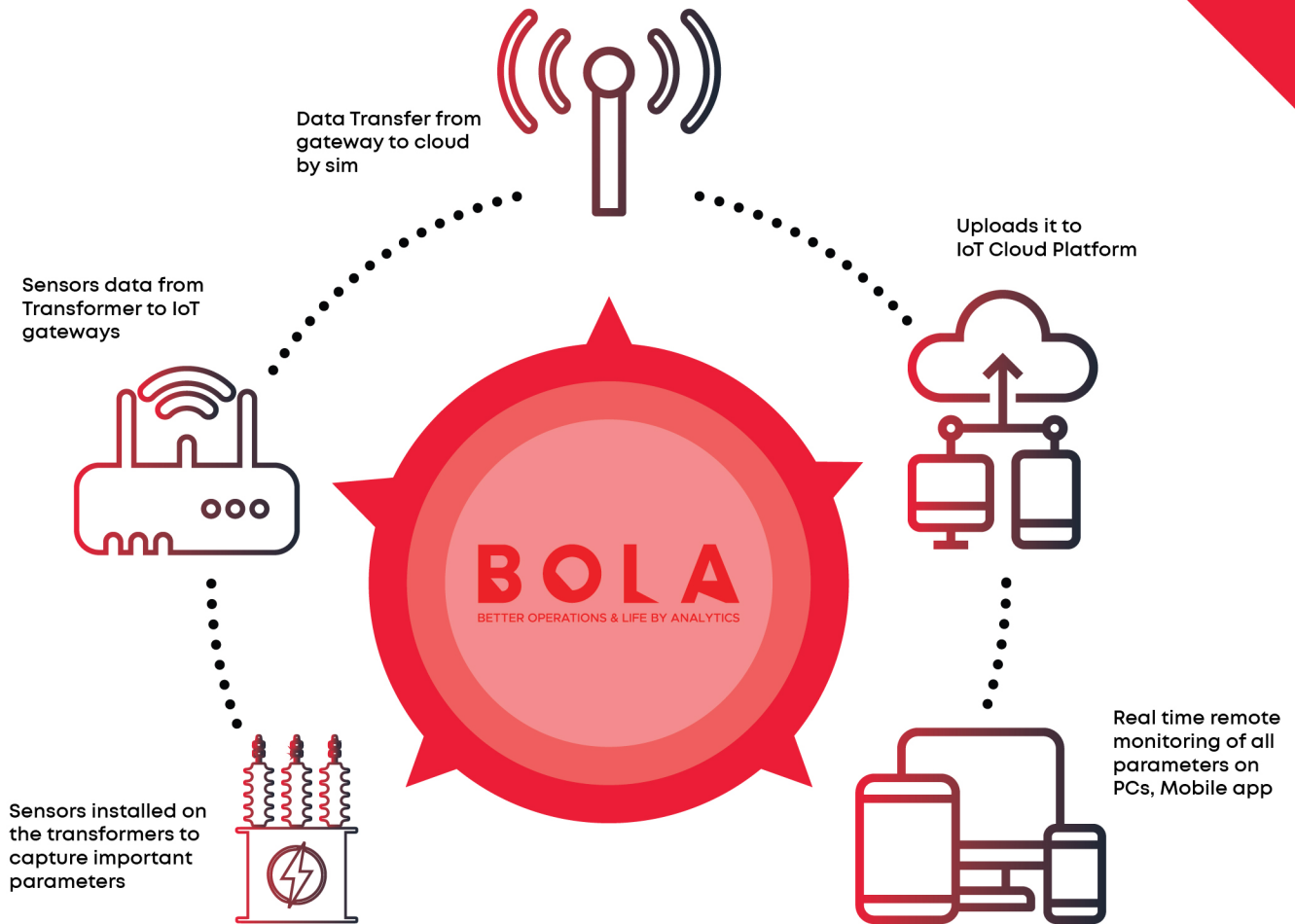
Real time monitoring of all parameters & graphical display with dashboards, acts as asset register



Demand variation insights, email & sms notifications, tampering notification

# SYSTEM OVERVIEW

How BOLA works



## BENEFITS

### Condition-based maintenance

Data supported monitoring & maintenance as and when required

