

GE  
Grid Solutions



# Building Your Asset Lifecycle Management Strategy

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The background is a solid blue color with a faint, light blue technical drawing or blueprint overlay. The drawing features various geometric shapes, including circles, arcs, and lines, with some areas shaded with diagonal hatching. There are also some alphanumeric labels like 'R1', 'R2', 'R3', 'R4', 'R5', 'F-H', 'B1', 'B2', 'B3', 'C', 'D', 'E', 'F', 'G', 'H', 'I', 'J', 'K', 'L', 'M', 'N', 'O', 'P', 'Q', 'R', 'S', 'T', 'U', 'V', 'W', 'X', 'Y', 'Z' scattered throughout the drawing.

# What is Asset Lifecycle Management?

Building Your Grid Asset Lifecycle Strategy

# Managing Electrical Assets: What's At Stake?

## ASSET HEALTH



## CAPEX-OPEX



## CRITICALITY



### ASSET PERFORMANCE MANAGEMENT PERSPECTIVE

- How to develop the best **maintenance** strategy?
- How to develop the best **replacement** strategy?



### OPERATIONS PERSPECTIVE

- How to **maximize the use** of the existing assets?
- How to operate with a **risk management** vision?

# Industry Challenges

## PREDICTING FAILURES

**89%** of failures are not related to age

## GROWING GRID COMPLEXITY

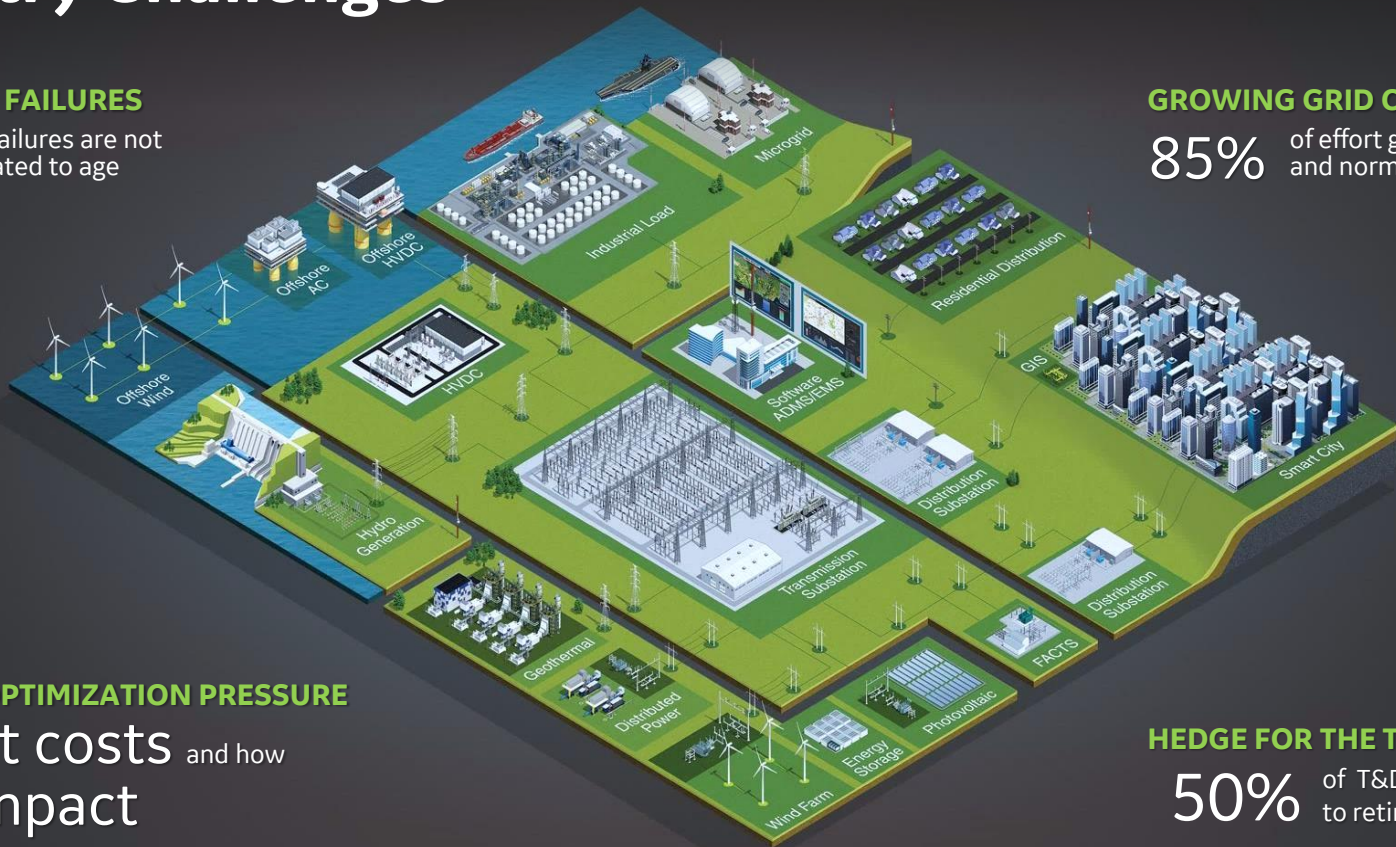
**85%** of effort goes in gathering and normalizing data

## BUSINESS OPTIMIZATION PRESSURE

Where to **cut costs** and how  
to evaluate **impact**

## HEDGE FOR THE TALENT DRAIN

**50%** of T&D workforce to retire by 2025





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# GE's Solution

Building Your Grid Asset Lifecycle Strategy

# Asset Lifecycle Management Services

## DATA COLLECTION

### Inspection



### Oil Lab. Analysis



### Data Consolidation & Connectivity



### On-Line Monitoring



Data Collection  
strategy

## GE's APM

### Modeling & Analytics



### Visibility & Insight



### IT Admin & Support



Asset Model  
Customization

## OPTIMIZATION SERVICES

### Work and Asset Management



### Maintenance & Repair



### Modernization & Replacement



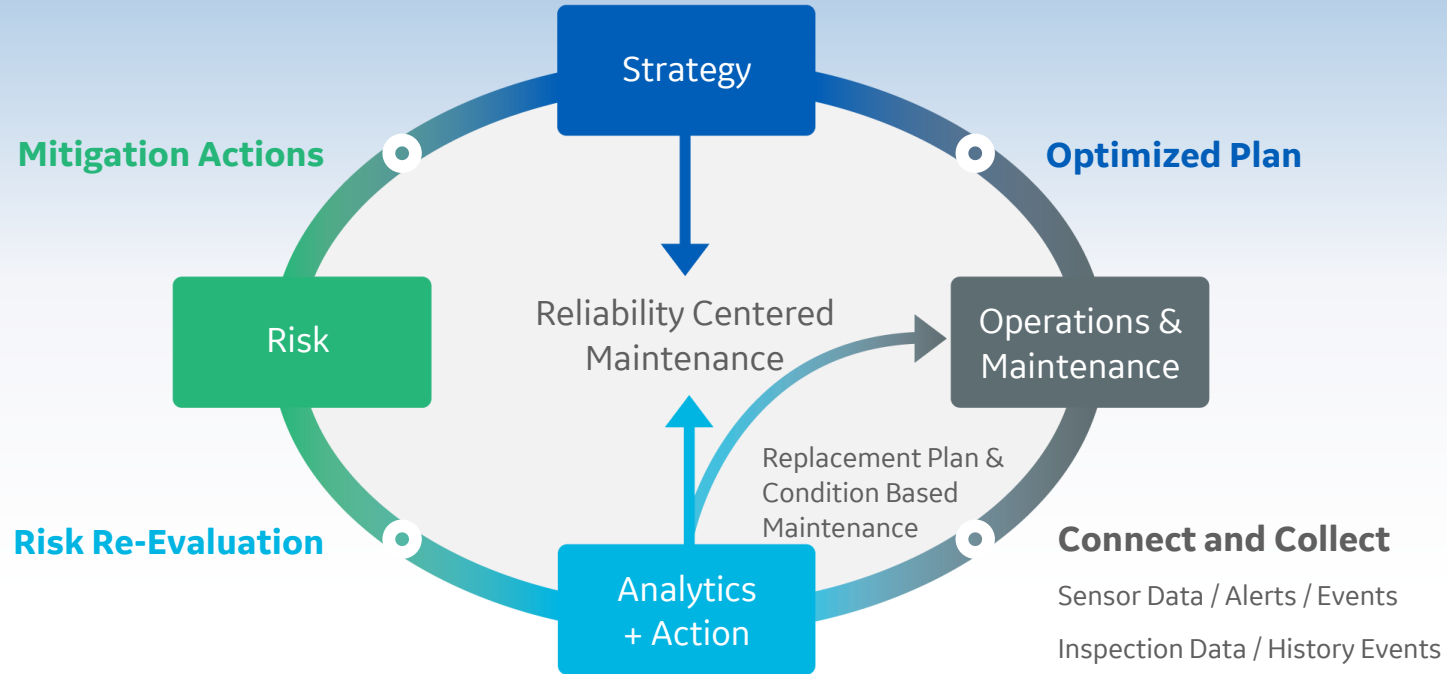
Operation & Maintenance  
Optimization

## OUTCOMES



SUPPORT & CONSULTING

# Intelligent Grid Asset Strategy Model



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# Customer Case Studies

Building Your Grid Asset Lifecycle Strategy



# Fleet Management with APM Solution

## CHALLENGE

The Qatari T&D utility had an ambitious business goal to identify and prioritize maintenance and asset replacement based on risks related to the current condition of electrical assets across of their distribution substations.

## ALM SOLUTION

- ✓ An APM solution Site inspection with tablet-based data collection application
- ✓ Oil test and analysis in GE Lab
- ✓ On premises analytics related to health, risk, residual life
- ✓ Periodic reports and recommendations from subject matter GE experts

**50%**

failure reduction

**180%**

ROI after 2 years



**150K** assets  
from GE and  
other OEMs

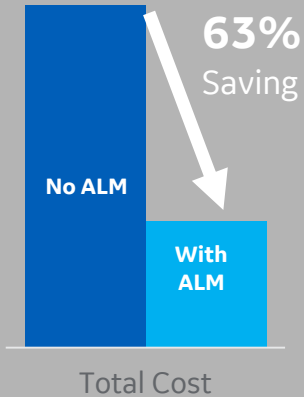
**15000**  
distribution  
substations

**12** types of  
assets



# Benefit Breakdown on Expenditure

- T&D utility
- **4 years** of evaluation



*Calculation method jointly defined and approved by customer*

