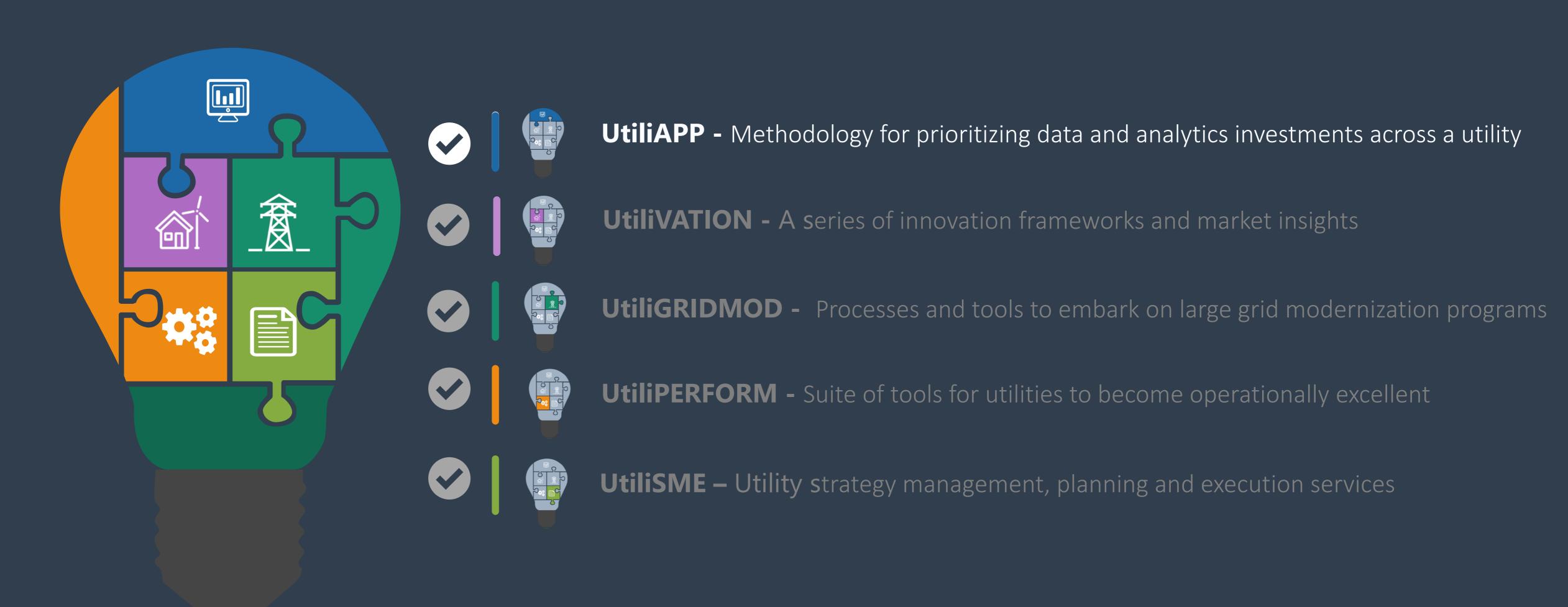


Utility Analytics Use Case Analysis | Analytics Roadmaps | Vendor Analysis | Data Assessments



Our Proven Utility Tools and Resources to Manage the Transition

Focus on UtiliAPP







UtiliAPP – Analytics and Application Management Methodology for prioritizing data and analytics investment across a utility



Overview – UtiliAPP is a proven method to help utilities determine what the highest business value from analytical investments are and as a result what technical and business requirements need to prioritized. We conduct rapid assessments and develop high-impact roadmaps for utilities ensuring that power companies are leveraging the most out of their data and technology investments.

Overview



Approach



Tools – UtiliAPP consists of several key tools including a repository of use cases that are categorized across load, voltage, work, customer, grid, work, reliability domains. Use cases are also categorized based on application e.g. visualization, prediction and control. Our tools also include industry business cases, vendor capability analysis and industry lessons learned.

Tools

Outcomes

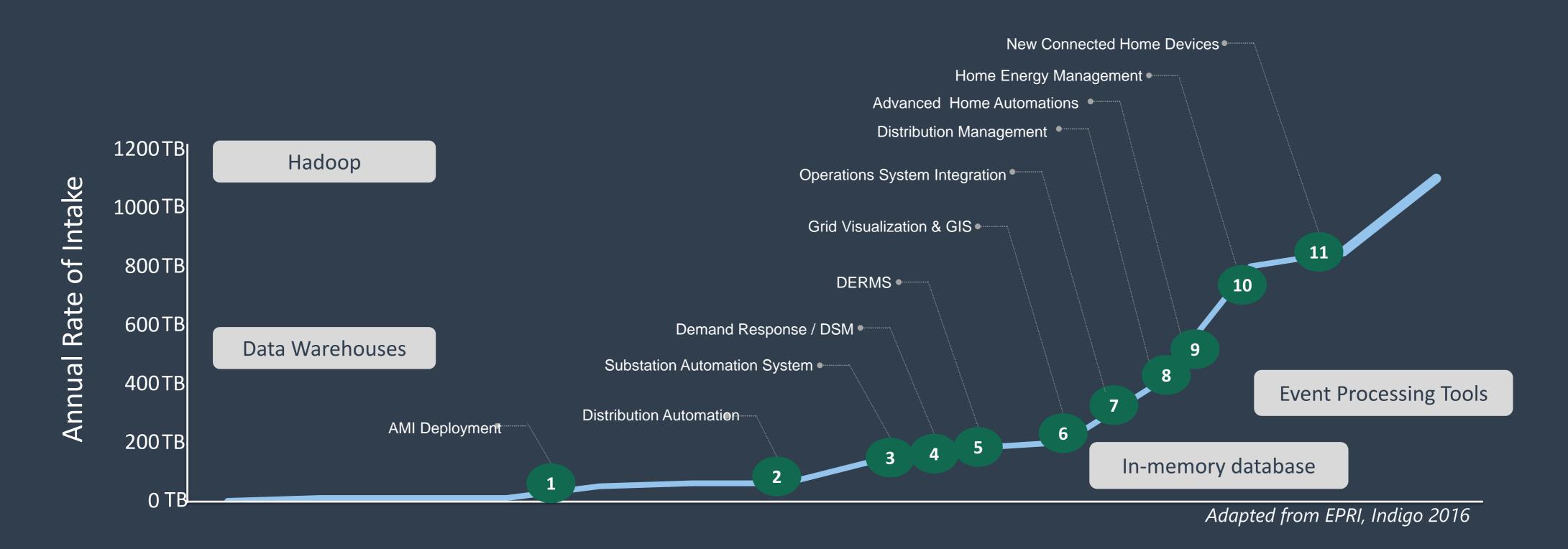
Approach – The methodology is centered around four key areas. 1) Using a repository of use cases we prioritize based on business need and overall cost to deploy. 2) We then conduct a data assessment to determine the availability and quality of data 3) We then develop a roadmap and for priority use case, develop detailed requirements. 4) Finally, we implement use cases and ensure that benefits are being tracked

Outcomes – The value of a targeted analytics programs for utilities can be enormous. Globally, utilities are decreasing the cost to serve, increasing reliability, enhancing customer satisfaction and creating more effective investment portfolios. Our approach and NPV analysis and back end benefit tracking can help utilities understand where the highest value applications exist today across the industry



Accelerated Growth in Utility Data

Sensors across the network and behind the meter are providing opportunity

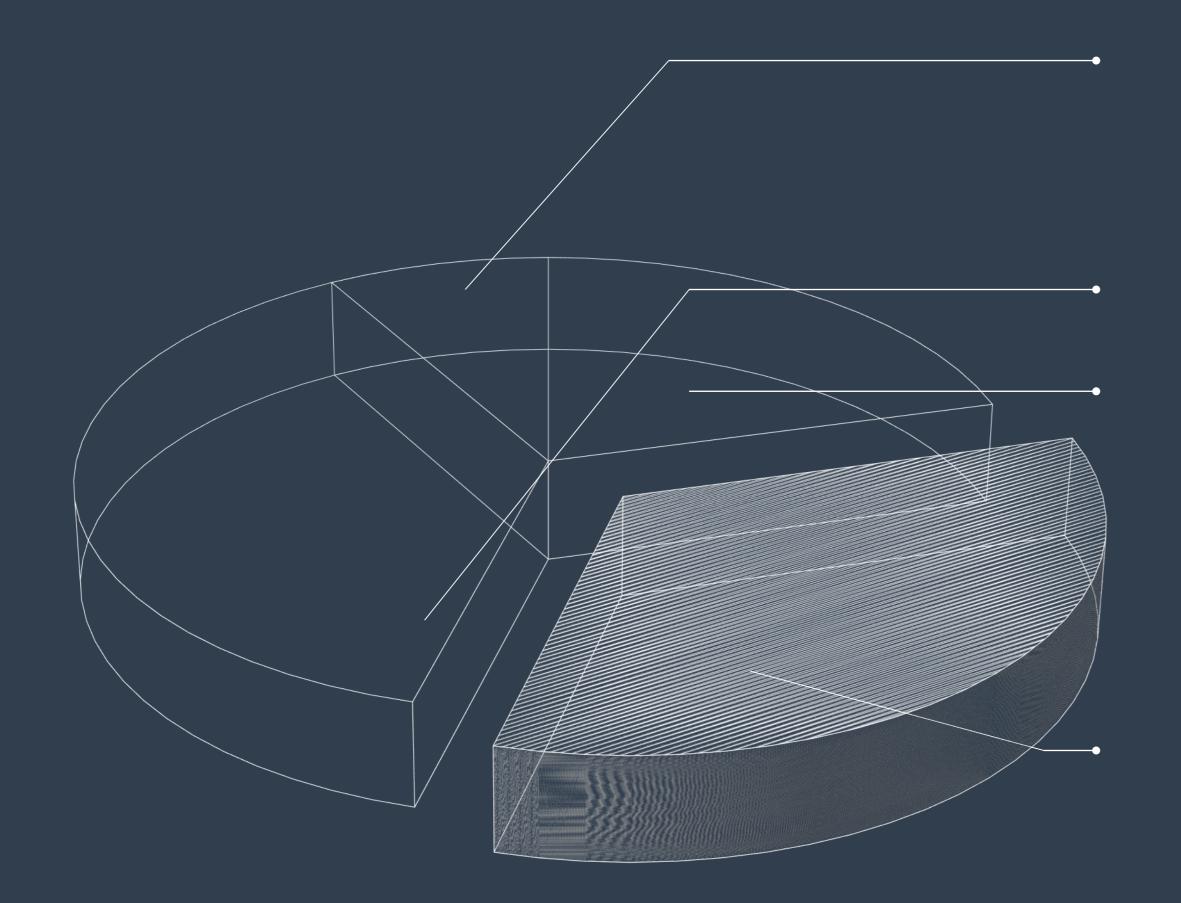


The massive increase in installations of intelligent devices and the corresponding rise in data usage will necessitate significant investment in data storage infrastructure and information management programs. Presently, the three key areas of investment by utilities are in the visualization, situational awareness and predictive forecasting domains.



Advanced Utility Analytics – Our Approach

Our Approach is centered on 4 key areas and with industry leading use cases as an input



1. Use Case Analysis

Utilizing a comprehensive inventory of use cases, Indigo can quickly map areas of high value analytical investments across domains such as visualization, predication and control

2. Application and Data Assessment

Based on our use cases and business requirements approach, we help utilities ensure they have the right data strategies

3. Analytics Roadmaps

We have created multiple analytics roadmaps for utilities that have demonstrated proven return on investment and significant organization efficiency impacts

4. Use Case Deployments

From use case identification through to implementation we work with utilities to ensure that their use cases are deployed efficiently and are being utilized effectively across the business

Indigo is helping power companies across the industry leverage analytical solutions that lower operations and maintenance costs, improve asset and load management, reduce outage management frequency and allow for a sophistication of customer products

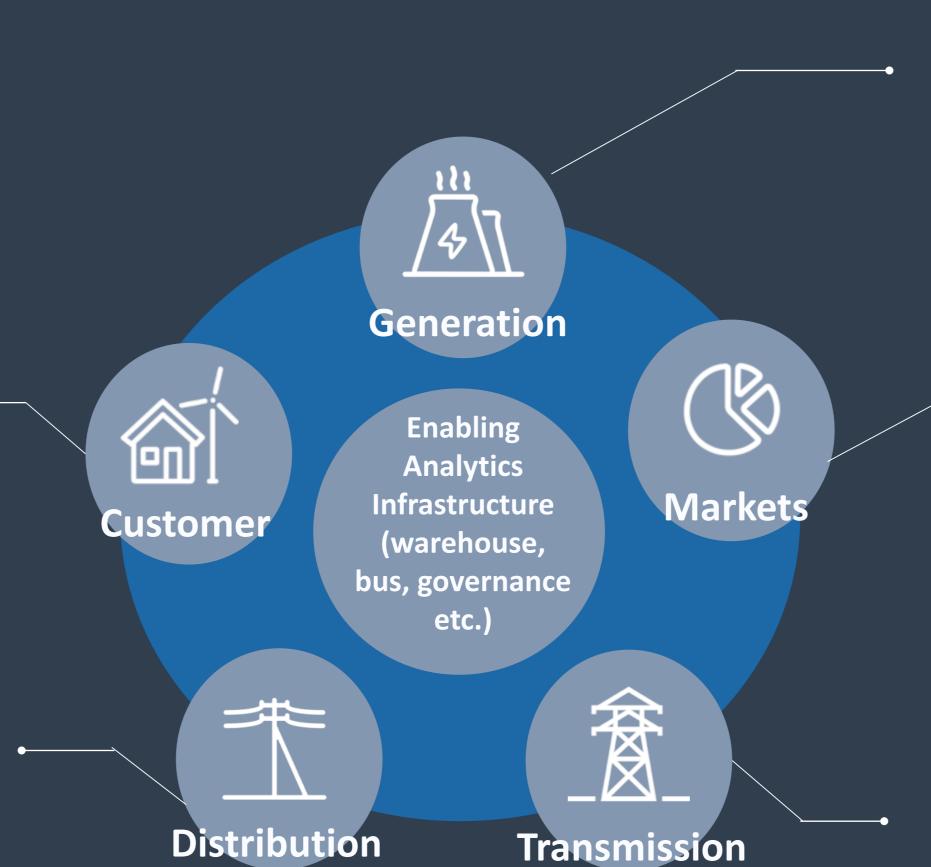


Example Analytics Use Cases Across the Value Chain

We bring over 100 directional use cases to the table for utilities to prioritize



- Appliance-level functionality assessment
- DER equipment operation and maintenance
- Demand-charge estimation by C&I customers
- Load disaggregation
- Rate comparisons
- Gamification
- Segmentation
- Participation in grid optimizing services
- Overload/Congestion Management
- Fault Location, Isolation, Service Restoration
- DG Monitoring & Voltage Tracking
- Real-time Loading Data for Distribution Ops. & Planning
- Automatically Map Phasing Information
- Weather Forecasting
- Demand Response Impact Forecasting
- Circuit-level DER forecasting and hourly customer load shapes

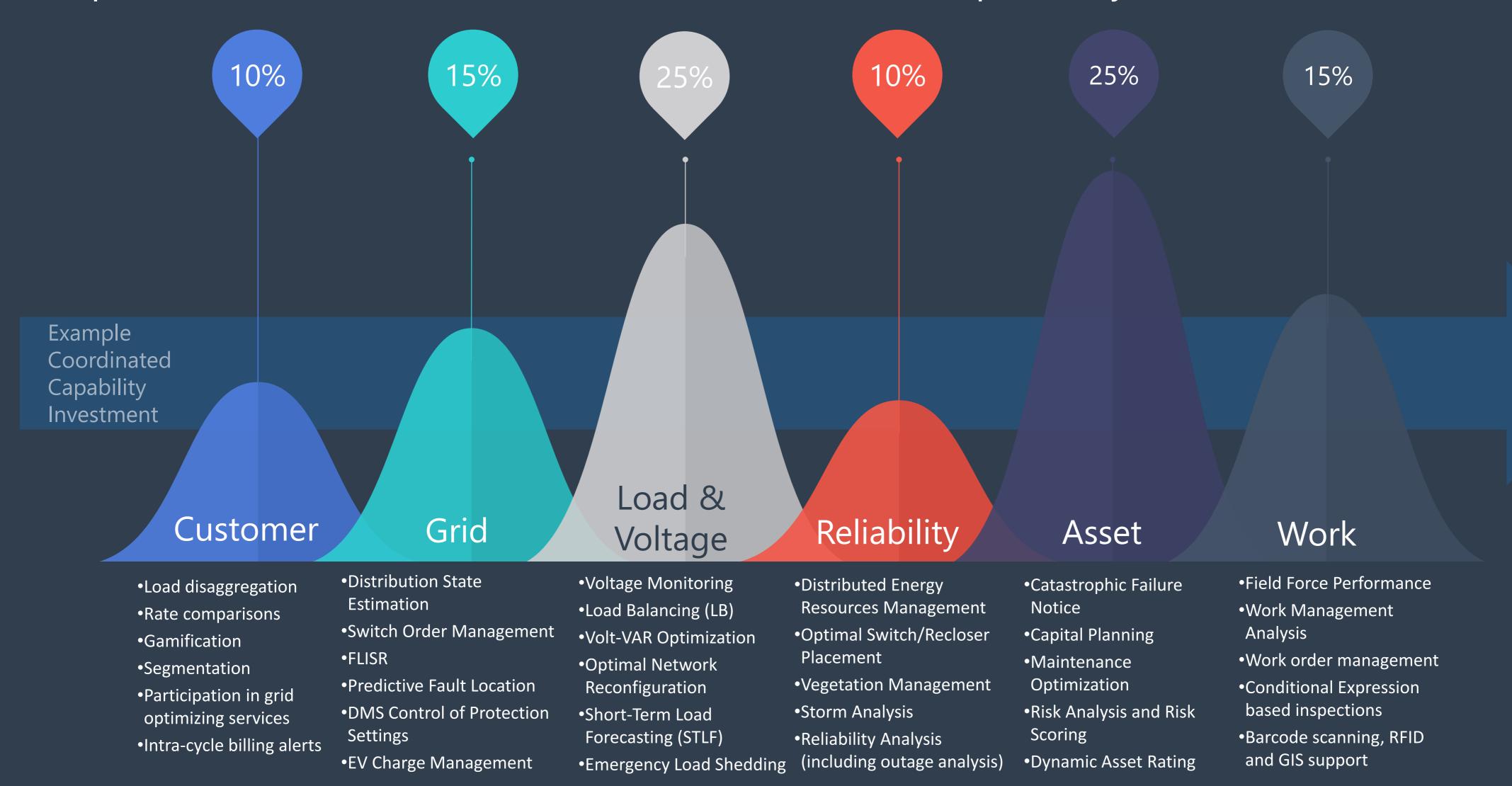


- Generation asset management (Step-up transformers, Steam turbines, Hydro turbines and generators, Fossil turbines, Support systems (batteries, room), GSU breakers, Back-up generators, Switchgear etc.)
- Plant availability analytics
- Forced outages analytics
 - Energy Scheduling Billing and Settlement
 - Market Interaction Validation
- Wide-Area Monitoring and Control Automated Control Functions
- Wide Area Control System for the Self-Healing Grid AGC Frequency Control
- Adaptive Transmission Line Protection
- Hours Ahead Load Optimization
- Optimized use of Synchro Phasor data
- Reliability
- Procurement times



Understanding the Value of Analytics Use Cases

We prioritize Use Cases based on several factors and unique utility characteristics







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