AEG – Boston

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Itron: Advanced Grid Infrastructure (AGI) Solutions Provider

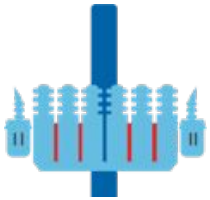
Delivering Technologies that Transform and Optimize the Low-Voltage Distribution Network

SMART CITIES

UTILITY IOT SOLUTIONS

METERING SOLUTIONS (2.0/3.0)

CONSUMER ENGAGEMENT

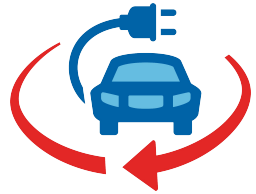


GRID MANAGEMENT
DA, DR, EMS/ADMS, DERM

DISTRIBUTED ENERGY MANAGEMENT

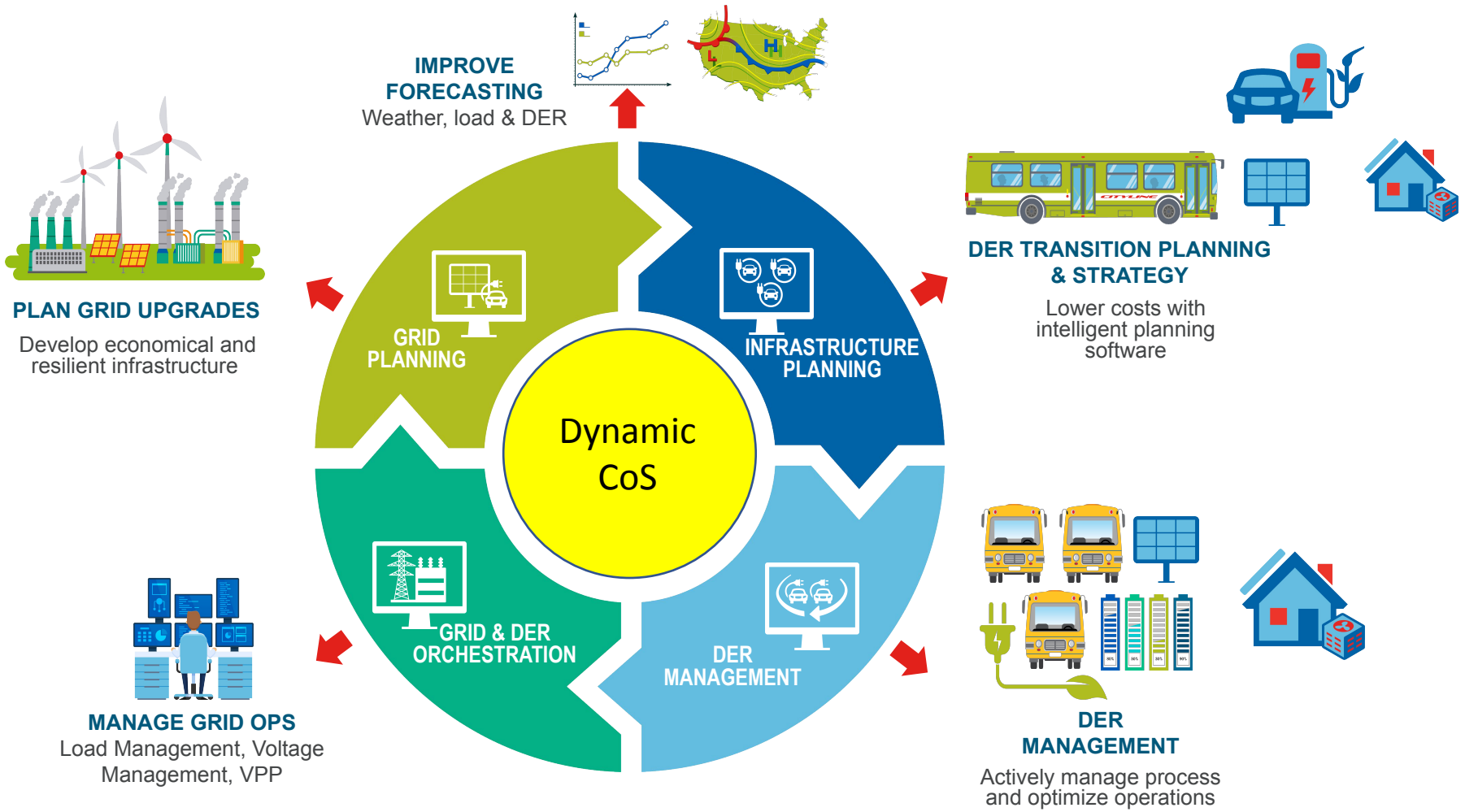
NETWORKING & COMMUNICATIONS

DISTRIBUTED INTELLIGENCE APPLICATIONS



EV & Deep Electrification of Transportation

Industry Challenge: Static Cost of Service Models Do Not Equitably Allocate Cost of Infrastructure and Service in a Modern Grid Environment



A **<u>Dynamic Cost of Service Modeling Solution</u>** Can Drive Strategic Grid Modernization and Integrated Grid Management

Dynamic Cost of Services (CoS)

Key Obstacles

- Deployment of fine resolution measurement on service points, non meter loads, and key grid sensors
- Complex Integrations across Government, Public, and Private domains
- Regulatory support, i.e. studies, pilots, and reports will have to be completed before general adoption.
- Controlling the narrative

Timeline

- No immediate deadlines within the next 12 month
- Potential path to justifying deeper investment to equitably harden infrastructure to accommodate EV, and DER

Comprehensive approach needed

- Real-time system State & Power Flow Analysis
- End-to-End Grid management solutions
- Enhanced Connectivity Model
- Flexible demand management (Utility, Residential & Commercial)
- Asset Management
- VEE and Complex Rates Engine
- Consumer engagement
- Trading environment form management and tracking activity
- High resolution sensor and/or service point data
- Asset / Premise level Usage & Supply profiling

Deep Collaboration Across Industry Silos

- Secure Data sharing path across lines
- Shared Management responsibilities
- Accommodation for facilities, permits & easements
- Rethinking traditional distribution design standards
- Regulatory support (Local Gov, Utility Regulator, and local building authority)

Itron – Can Support

Benefits of DCoS

- Enables Real-Time Pricing similar to LPM (location marginal pricing) on the transmission network that can be leveraged to provide an accurate DCoS for the consumer and aggregator trading market.
- Accurately characterizes the variable cost to serve of all service points. (Meters, Streetlights, unmetered loads etc.)
- Supports the ability to minimize the cost of infrastructure required to support existing and proposed DER and EV)
- Allows utilities to work with regulators to establish real financial models as it related to energy trading across the Grid, i.e., peer to peer energy trading transactions etc. *(FERC order No. 2222)*
- Establishes a highly accurate and autocorrecting connectivity model
- Drives highly accurate real-time demand KW, energy KWH, and revenue forecasting

12-month Collaboration Challenge

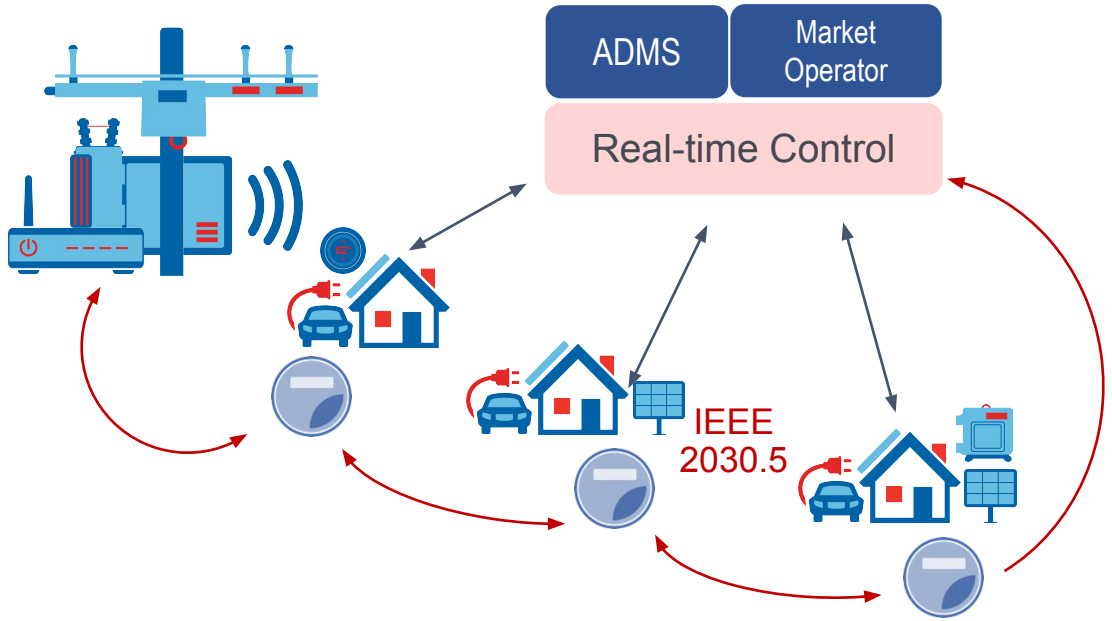
Regarding Grid Modernization, to achieve Boston's Climate, Health & Equity goals, a critical obstacle to collectively overcome in 12 months is:

Developing an integrated dynamic cost of service model solution.

Appendix

Control of Low-Voltage Network with Distributed Intelligence

Management of distribution systems at the edge integrated with ADMS/SCADA



DIFFERENTIATED APPROACH

Single DI-enabled real-time data analytics & control platform enables solutions to utilities on customer and grid side

TRANSFORMATIVE RESULTS

Delivering layers of value: visibility, load & charging control, AI driven analytics, market participation, transactional energy

Smart Meter 2.0

Enhancing AMI use cases

Grid Edge Operation

Low-voltage grid resiliency, power quality, transformer protection, outage management

Distributed Energy Resources

Managing multiple behind-the-meter DERs incl. EV, solar, and storage for system reliability, renewable firming

EV Infrastructure

Highly reliable, secure and flexible EV management for fleet/semi/public

Consumer Engagement

High-fidelity Load Disaggregation HAN 2030.5