#### **Host Utilities**









SESSION PARTNER

**ADD LOGO OR DELETE IF NO PARTNER** 





#### **Supporting Ministries**













Smart Metering Part B - DISCOMs, AMISPs, OEMs and SIs

**Transforming Utilities with Smart Metering Innovations** 

**Presented By** 

Gopinath Mishra, PM (Digital Solutions), Kimbal













#### Introduction





- Smart metering is revolutionizing the digitalization of distribution utilities.
- Advanced smart metering enhances analytics, proactive grid management, and customer engagement.
- Ensuring scalability, interoperability, and cybersecurity is key to its success.
- Alignment with existing systems and business processes of Discom is crucial for seamless deployment and operational efficiency.

# **Evolving Smart Metering: Opportunities & Challenges**





- Current smart meter deployment enables remote reading, data collection, load profiling, and remote operations.
- A transformative upgrade is in the horizon for enabling distributed intelligence, edge computing, and enhanced analytics for smarter user engagement.
- Discoms face challenges in legacy integration, cybersecurity, and costeffective deployment.
- The shift requires strategic investments in scalable architectures that align with existing systems and processes.

## **Why Advanced Smart Metering Matters?**





- Consumer Needs: Reliable, and quality power 24/7
- Citizen Engagement: Trust through transparent billing, proactive communication, personalized insights, alerts, and demand-side participation boost satisfaction
- Operational Efficiency: Supports proactive maintenance, minimizing outages and improving response time.
- Energy Optimization: Enhances distribution with load forecasting, demand response, and voltage control
- **DER Integration:** Enables EV charging, and DER integrations

### **Key Features**





- Enhanced Data Granularity: Delivers real-time updates for monitoring.
- Swift Data Processing: Ensures efficient data handling for better visibility and management.
- Interoperability: Ensures compatibility across diverse devices and platforms for flexible deployment.
- Cybersecurity Framework: Secures data with encryption, identity management, and intrusion detection
- Edge Computing: Enables local decisions, reducing latency.
- Advanced Intelligence: For autonomous decisions, load balancing and outage management.

## **Designing Scalable Architecture**





- Scalable Platforms: Expand data ingestion and processing to support millions of meters at ease with a focus on future DER integrations.
- Cloud-Agnostic Deployment: Ensures flexible scaling, data redundancy, and enhanced accessibility.
- Real-time Intervention: Load disaggregation for appliance-level data and control via smart app, enabling utility-managed Demand Response.
- Enhanced Edge Processing: Devices need edge capabilities and local communication for real-time insights and consumer engagement.
- Legacy Integration: Ensures compatibility with billing, GIS, and OMS systems to minimize transition risks.

### **Roadmaps**





- Ecosystem Collaboration: Foster partnerships among DISCOMs, AMISPs,
  OEMs, and integrators for aligned strategies.
- Holistic Planning: Emphasize hardware sizing, system designing, and cybersecurity for scalable growth.
- Embrace Data Analytics: Leverage data for predictive maintenance, fraud detection, and energy optimization.
- Trust-Based Engagement: Build trust through transparent billing, realtime monitoring, ensure reliable power delivery and adaptive DR control.
- Future-Proof Systems: Use modular, and scalable designs for EVs, microgrids, and renewables integration.

#### **Host Utilities**









SESSION PARTNER

**ADD LOGO OR DELETE IF NO PARTNER** 



















# THANK YOU

For discussions/suggestions/queries email: isuw@isuw.in

www.isuw.in

Links/References (If any)











