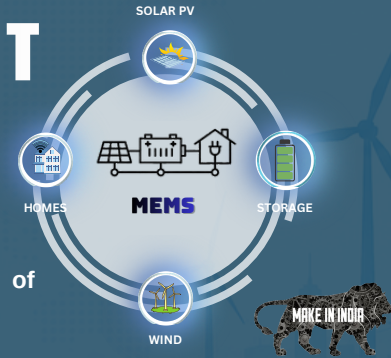




MICROGRID ENERGY MANAGEMENT SYSTEM

INTELLIGENT ENERGY MANAGEMENT PLATFORM

A unified platform for real-time monitoring, autonomous control, and AI-driven optimization of distributed energy resources - from solar and battery storage and demand loads



AI Forecasting



Multi-Source Integration



Grid-Edge Control



PROBLEM

- **No centralized oversight:** Distributed energy resources lack unified visibility for effective management.
- **Weak real-time capabilities:** Limited monitoring and control hinder timely responses to issues.
- **Inefficient operations:** Poor energy utilization drives up costs and reduces reliability.
- **Data and response gaps:** Fragmented insights cause delayed fault handling and suboptimal efficiency.



SOLUTION

- **Centralized real-time platform:** Enables monitoring and control of distributed energy resources (DERs).
- **Intelligent energy optimization:** Balances generation, storage, and consumption for peak efficiency.
- **Seamless DER integration:** Unifies resources with advanced analytics for data-driven decisions.
- **Enhanced reliability:** Speeds fault detection, cuts costs, and boosts overall system performance.



APPLICATION AREAS



Industrial Systems

Optimize energy consumption and reduce operational costs



Commercial Buildings

Smart energy monitoring and load control



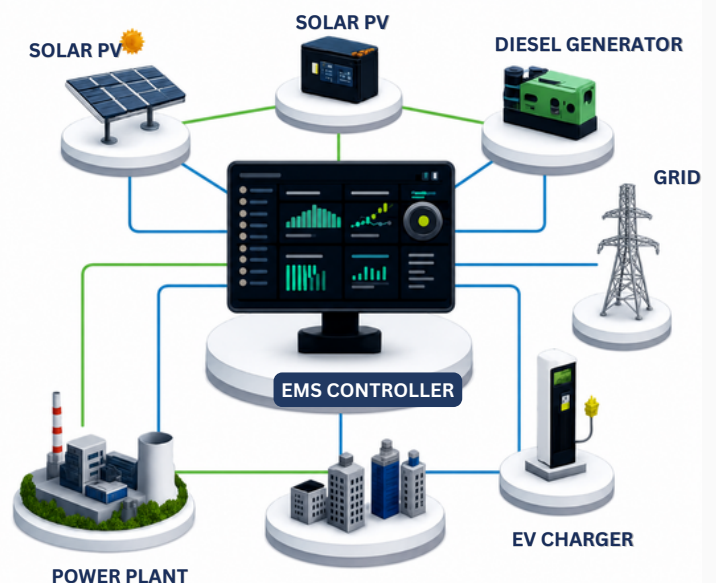
Renewable Integration

Efficient integration of solar and distributed energy resources



Smart Grid Applications

Enable intelligent and power grid distribution





KEY FEATURES



Real-time monitoring of energy assets



AI-based load and generation forecasting



Battery storage Optimization



Peak shaving and load shifting



Seamless grid connected and islanded operation



BENEFITS



Improved Operational efficiency



Reduced energy and operational costs



Better decision making with real-time insights



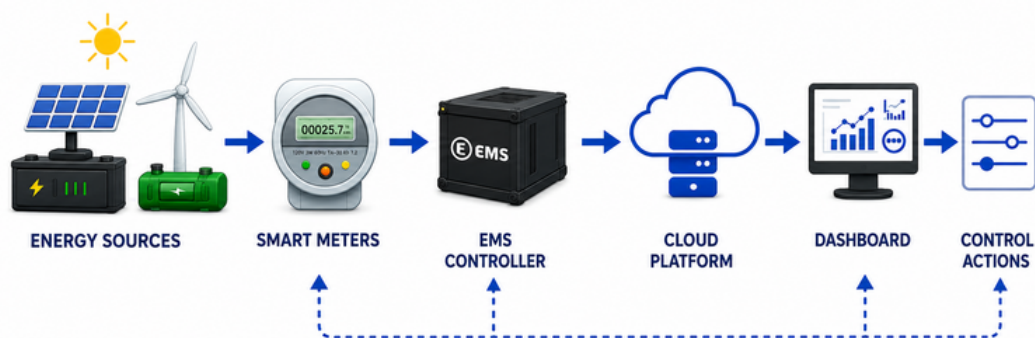
Enhanced energy utilization



Scalable and future ready solutions



SYSTEM ARCHITECTURE



OPERATIONS



Continuously monitors energy generation and consumption



Processes real-time data for optimized decisions



Automatically controls loads and storage systems



Maintains backup and ensures uninterrupted operation



MEASURED PARAMETERS

- Voltage (Phase-wise)
- Current (Phase-wise)
- Power (Active / Reactive / Apparent)

- State of Charge(Battery)
- Frequency
- Energy (kWh, kVAh)

Noida

IIT Kanpur Extension Center, C Block,
Phase 2, Industrial Area, Sector 62,
Noida, Uttar Pradesh 201309

Kanpur

SIIC, IIT Kanpur,
Uttar Pradesh 208016

www.innovativegrid.in
ceo@innovativegrid.in
+91 99581 59054

