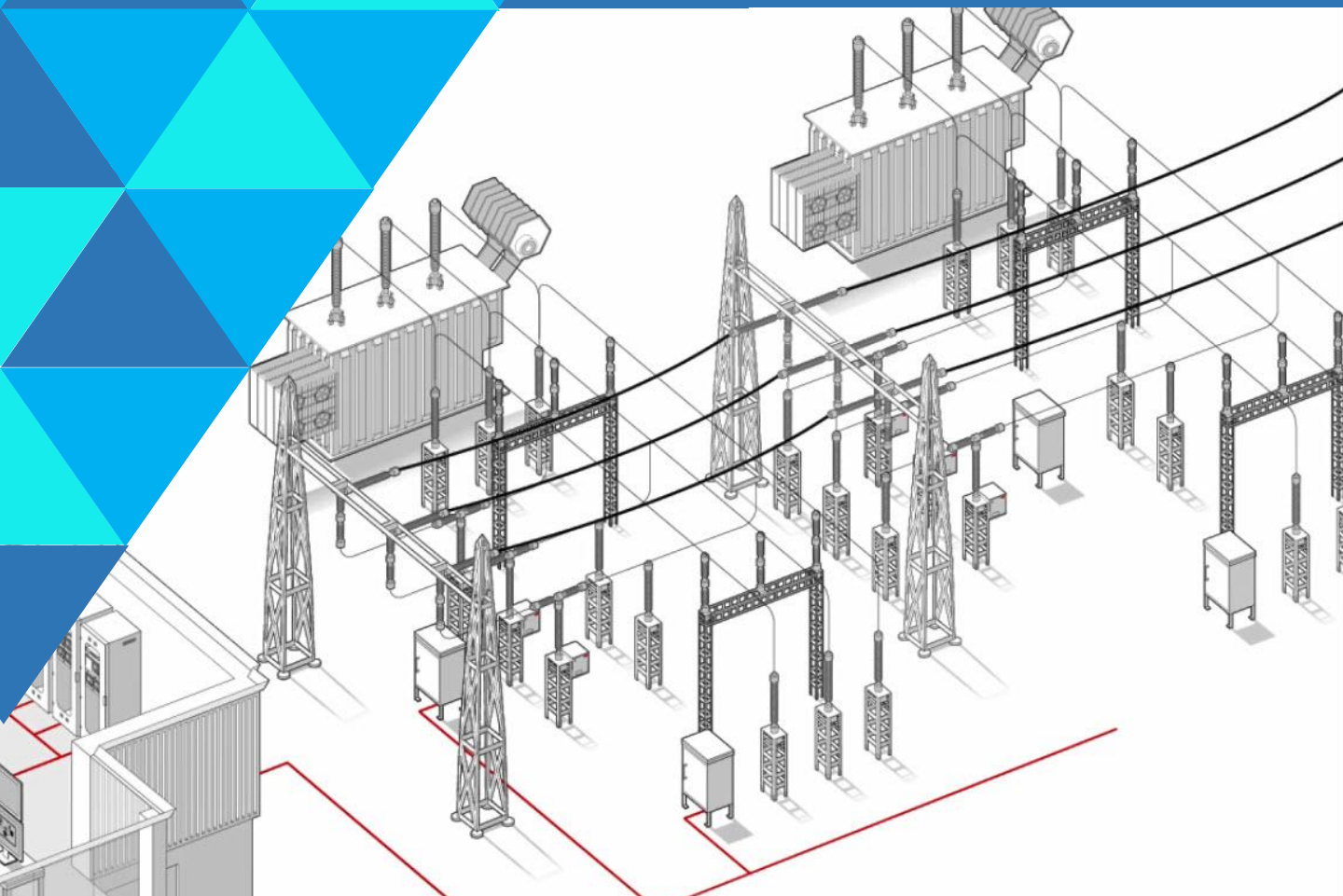


ENERGY AUTOMATION



ABOUT US

Mecamidi HPP India Private Limited is a Global EPC Company having experience in handling over 450 MW projects in Renewable Energy Sectors since more than two decades. We provide end to end Smart Energy and Distribution Solutions both in Domestic as well as International Market.



**GRID
DISTRIBUTION
AUTOMATION**



**SCADA, DMS,
OMS AND
AUTOMATION**



**SUB-STATION
AUTOMATION**



**TRANSFORMERS,
SWITCHYARDS AND
SUB-STATION
EQUIPMENT**



**HIGH/MED/LOW
VOLTAGE PANELS**

Energy Automation

Automate Generation, Distribution & Transmission

Mecamidi HPP India aims to strengthen and modernize substation/grid to a modern automated distribution solution.

Need for Automation










- Network Performance Improvement and Reduction in Downtime during breakdown
- Integration of existing aged components i.e. Electro-mechanical relays etc. with modern automation systems
- Communication requirements for effective, efficient and low latency radio network
- Sophisticated Protection and Control
- Integrating Intelligent Electronic Devices with correct protocols and configurations to improve the availability of overhead feeders
- Reduction in time to locate the faults on overhead network
- Utilize effectively the existing energy infra with new Intelligent Electronic Devices as a part of a common control center
- Communication of all electronic devices with SCADA/DMS over defined protocols

Energy Automation

SOLUTION Via AUTOMATION And MODERNIZATION OF ENERGY INFRASTRUCTURE

- Automation and Modernization of Overhead Distribution Lines for reduction in downtime and Realtime monitoring of feeders
- Fault Monitoring Digital system to monitor faults in overhead and underground distribution lines
- Digital Augmentation of existing Sub-stations (Sub-station Automation) – Automating protection, control, monitoring, and communication capabilities of sub-station.
- Installation of Intelligent Electronic Devices (IED's) with corrected protocols and configurations to improve the availability of overhead feeders and sub-station
- Installation of new generation 3G router and gateways at the field controllers of the IED's for bringing them on common protocol (IEC 104 recommended for 3G/GPRS networks and DNP/IP for Radio Networks)
- Providing communication interface converters (Serial to Ethernet OR Serial RS232 to 485 etc.)
- Creating a GUI (Graphical User Interface at the control center) with integrating SCADA/DMS to monitor energy assets and infrastructure
- Developing a secure data communication interface and network for easy data retrieval

MECAMIDI HPP INDIA ENERGY AUTOMATION CAPABILITIES

-  **Feeder Automation for Overhead & Underground N/W**
-  **Sub-station Automation**
-  **Unmanned Sub-station**
-  **Hydro Power Plant Automation**
-  **Solar Power Plant Automation**
-  **Remote Energy Profiling and Access**
-  **Auto Recloser Automation**
-  **Distribution Transformer Monitoring Solution**
-  **DG Set Automation for centralized monitoring**

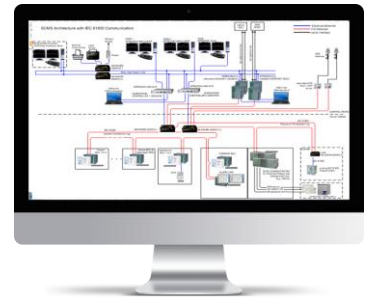


Energy Automation

UNMANNED SUBSTATIONS

Digital Substation which can be controlled remotely.

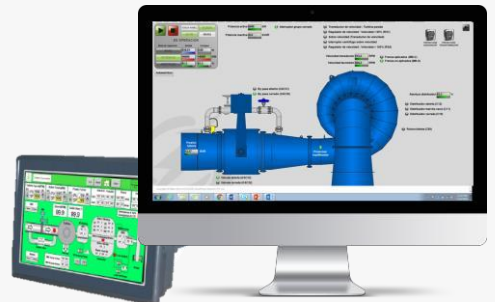
- Very Compact and quick to install
- 50 – 70 % space saving
- 100 % Outdoor – Minimal civil work, no building required 30% time required to erect and commission
- Very sophisticated Protection, Control and Automation
- Leads to complete solution for overhead Feeder Automation Completely remote operation using GSM/GPRS/Web access Ready for integration with any SCADA/DMS system



HYDRO POWER AUTOMATION

Digital control systems for Hydro power plants

- Operation Centre based on Scada
- Turbine Control
- Generator control
- Generator and Transformer protections
- MV/HV substation control and supervision
- Measurement Boards
- Gate Control Systems



DISTRIBUTION TRANSFORMER MONITORING SYSTEM

- Provides energy parameters and other relevant to the central control station in the form of graph, charts and other user defined widgets with advanced filters.
- Advanced detection of abnormal conditions and send alerts in the form notifications, mail, message or alarm locally or remotely. UI based advance rules logic to perform correlations on both measured and calculated data. Provide maintenance support to address abnormal operation



Energy Automation

DG SET AUTOMATION

Specialized S/W & H/W modules for DG Automation system for various DG automation requirements e.g. :

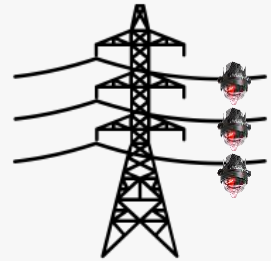
- MIS Systems and Fuel Measurement
- Auto Starting / Stopping (AMF/AMR)
- Auto Synchronization
- Grid Synchronization and Export Control.
- Auto Load-Sharing
- Load Management
- Energy Management.
- SCADA Systems



DISTRIBUTION AUTOMATION

Distribution Automation for Overhead and Underground Networks using

- Auto reclosers & Sectionalizers
- Remote Terminal Units
- Fault Passage Indicators
 - Phase fault indicator for MV overhead lines
 - Easier to locate faults on distribution networks.
 - Communication option: Radio / 3G / 2G network support
 - Web based Dashboard with SCADA integration on IEC 104



SUBSTATION AUTOMATION AND COMPLETE REMOTE CONTROL

- IEC 61850 Based Protection
- IEC 60870-5-104 Based Host Communication
- Substation Gateways And RTUS
- AIS, GIS Metalclad And Solid Insulation Vacuity
- Remote Communications (Optical Fiber, Rf, 3g, Broadband, VSAT) With Encryption, VPN And SSH Tunneling For Cyber Security
- Embedded Web Servers For Field Staff Access To Vital Information And Diagnosis
- Special Embedded Algorithms For Effective Reactive Compensation

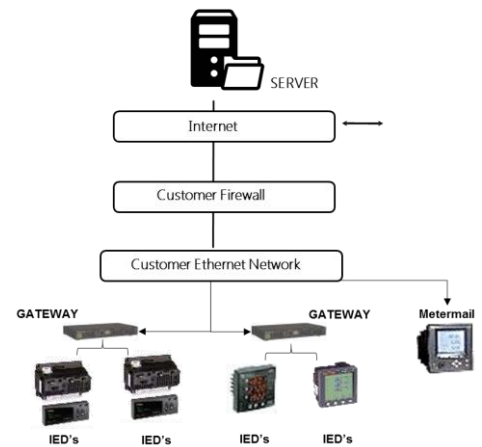


Energy Automation

REMOTE ENERGY PROFILING & ANALYSIS

Energy monitoring system is used to manage all received meter readings, compute the billing cost, update the database and maintain an energy consumption profile for each user.

- Meters/Gateways are installed at client location and connected via internet
- Data files are sent via the internet automatically to secure EVO servers and stored for 24/7 customer access
- Via web browser, customer, accesses and views data securely via user id and password
- Demand curtailment messages to consumers during peak time



ADVISORY AND CONSULTANCY

- Distribution Network Survey and Planning
- Network Upgradation and Automation Planning Including Device Selection and Specifications
- Communication System Planning for Distribution Automation Using Public And Private Communication Infrastructure Viz. 3G/4G/RF/VSAT
- Software Solutions Planning Viz., DMS, Outage Management, GIS, Workforce Management, Demand Response Management AND Automated Demand Control
- Microgrid Design and Planning




SOFTWARE SOLUTIONS

- Scada, Scada Data Management Systems
- Geographical Information System based Operational Management System
- DRMS (Demand Response Management System)
- Mobile Workforce Management
- Cloud based Remote Energy Management Systems
- Control Center Development



GET IN TOUCH

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