

Connectgaia.com Web Based Energy Management Solution



energy
THE LIFE FORCE



environment
THE LIFE GIVER



earth
THE LIFE PRESERVER

KLG Systel Limited

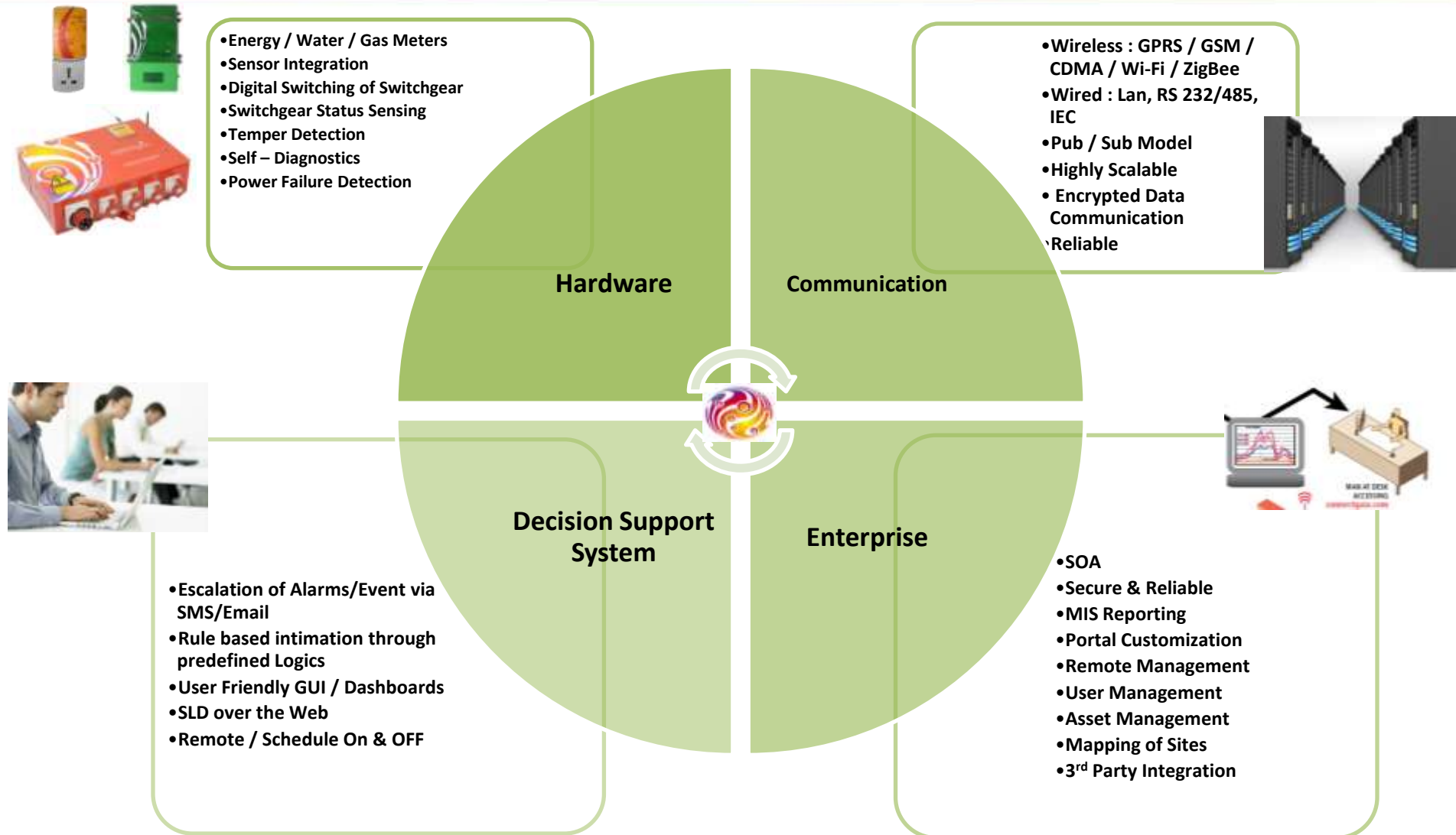
- A **knowledge based technology solutions** company with 2 decades of experience
- Provides **IT Enablement for Business Challenges**
- Among NASSCOM's **Top 50 IT Innovators** of 2008
- Ministry of Power empanelled System Integrator, Meter Data Acquisition System Provider and GIS Service Provider
- Bureau of Energy Efficiency empanelled
- Technology **partner with global leaders** such as Autodesk, COADE, IBM, Invensys, Microsoft, Oracle, Primavera, PTC, Landis+Gyr, SAP and Unigraphics
- Over **2000 customers** - multinationals like Nestle, Unilever, Pepsi, British Gas and Indian giants such as Reliance Industries, Tata Steel, NTPC, BHEL, Reliance Energy, Essar and L&T
- Listed on the bourses of the NSE/BSE, India, the Luxembourg Stock Exchange, Europe and the Singapore Stock Exchange



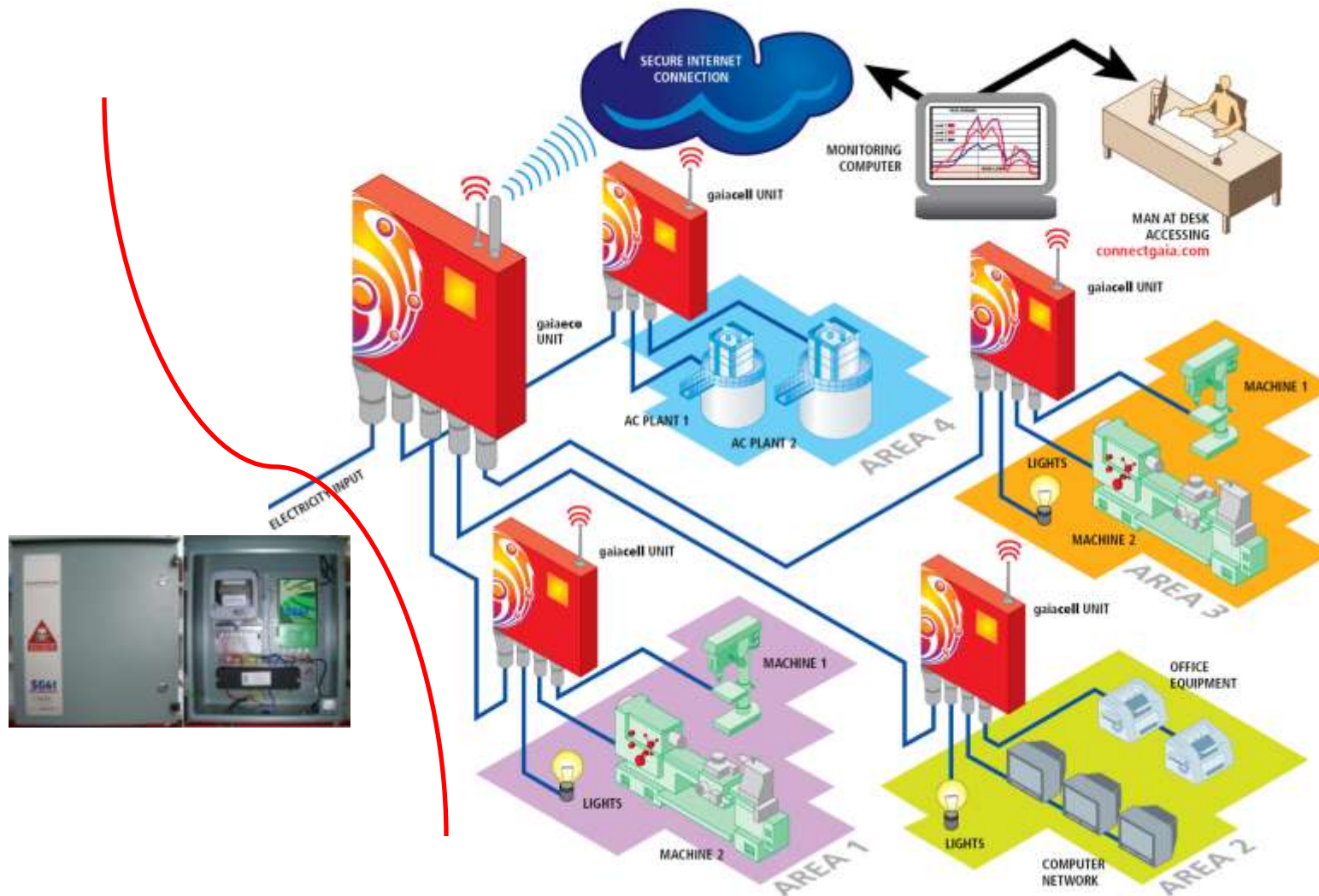


**connectgaia.com – Integrated Hardware, Communication and
Software technology platform!**

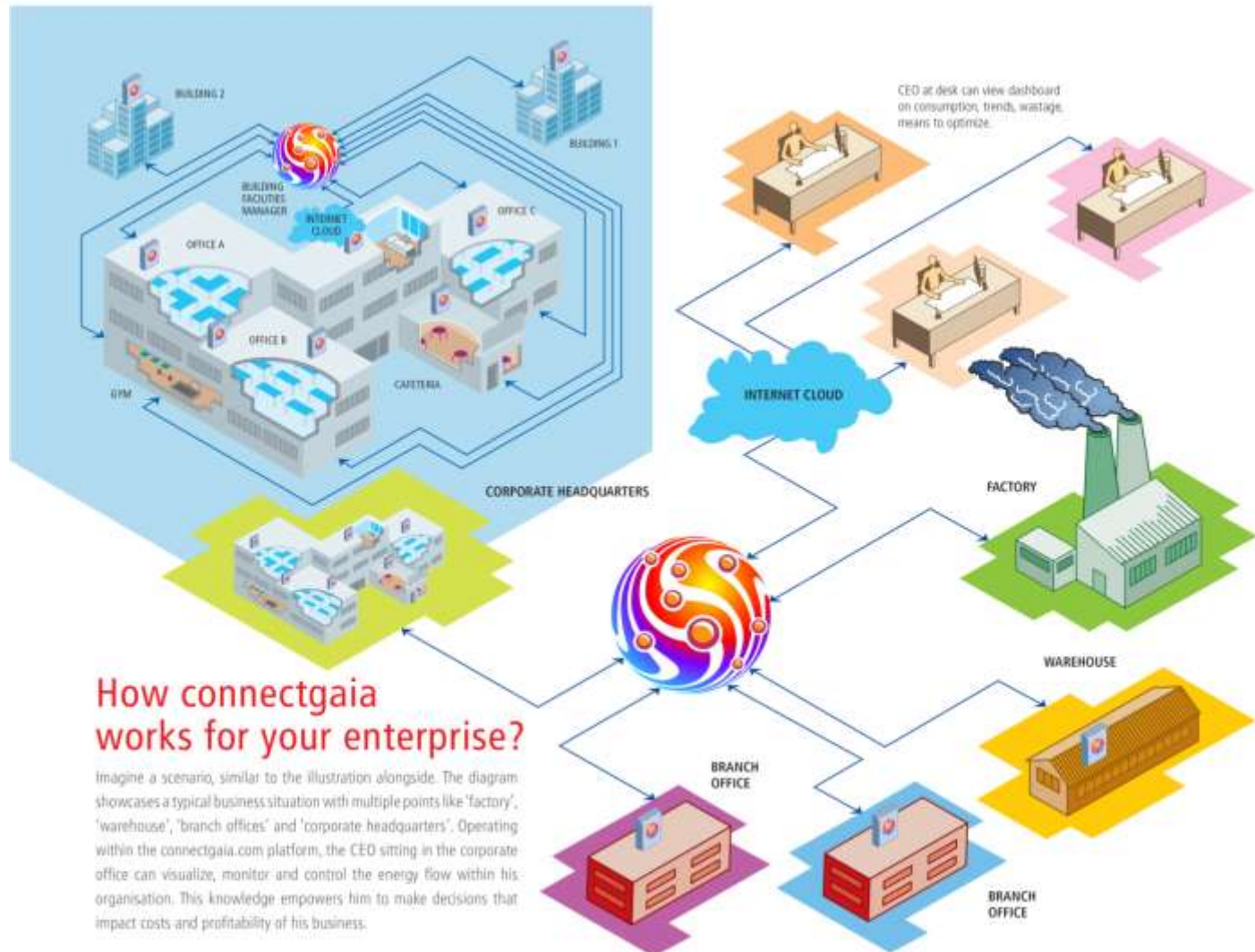
What is connectgaia?



Typical connectgaia Implementation Architecture



Multi Location – Enterprise connectgaia Implementation

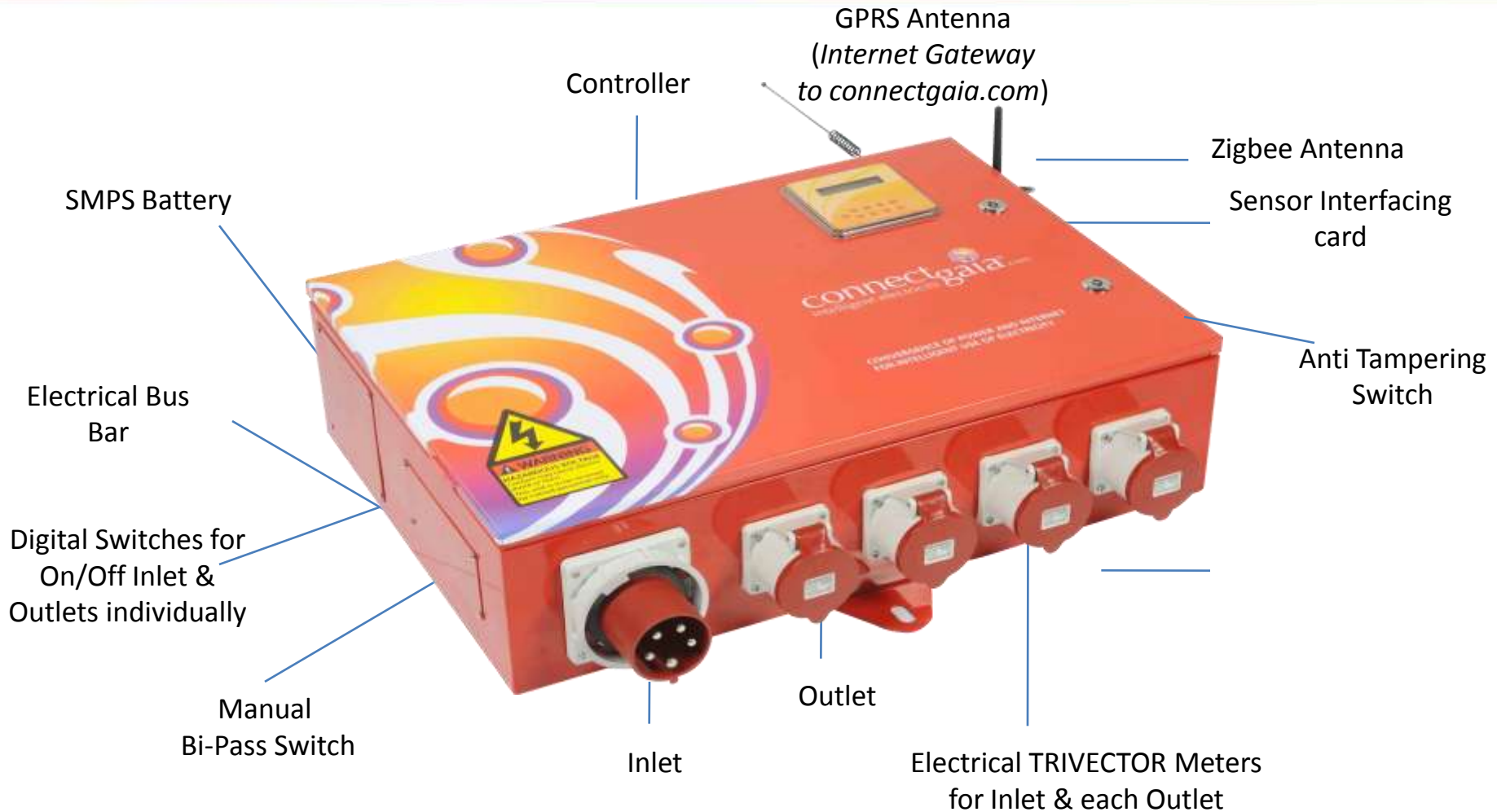


connectgaia Hardware Platform

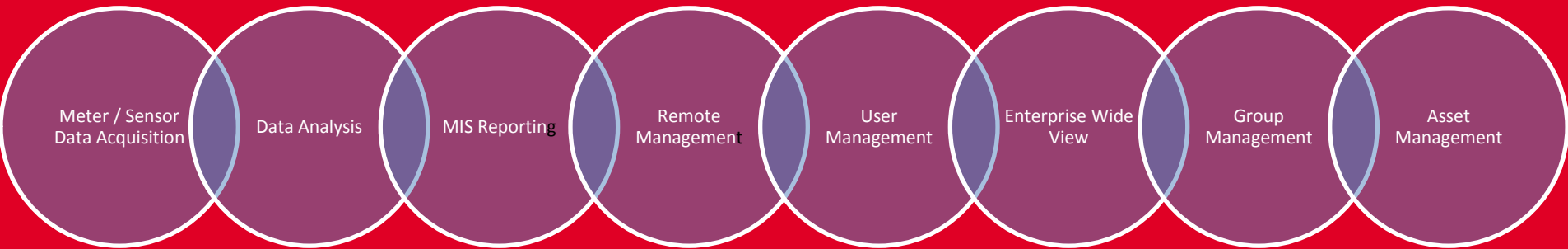


Connectgaia Technology

Web Enabled - From Sensing to Control



Connectgaia Applications for Textile Industry



Integrated Energy Management

Applications

Substation / Feeders / Transformers

Captive Generation

Pumps / Motors

Buildings / Plants

Infrastructure Lighting

Single Line Dashboard

Energy Accounting (for HT Feeders, Distribution Transformer)

Energy Accounting

AT & C Losses
Breaker Status Monitoring

TOD/Supply & Demand

Transformer Health Monitoring (Oil Level Measurement, winding temperature)
Load Forecasting

Demand side management

Billing & Power Quality Audit

Breaker Status

Auto Refreshed Status
of Breakers
(MCCB/VCB/ACB's etc.)

Substation / Feeders / Transformers

ADP Status

Device Status : ■ GPRS UP ■ POWER CUT ■ UPS

MCCB - CONTACTOR_1



ON OFF

MCCB - CONTACTOR_2

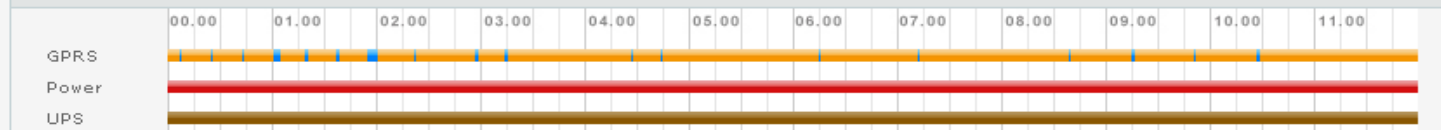


ON OFF

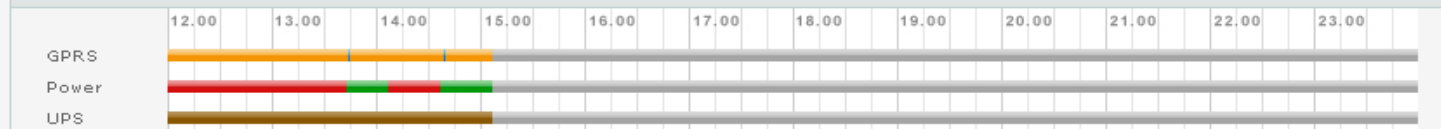
Refresh:

VCB - 16 20 MVA AUX. TRANSFORMER			VCB - MBF PLANT CONTROL			VCB - 7TH HARMONIC FILTER CONTROL		
On	Trip	Off	On	Trip	Off	On	Trip	Off
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
ON OFF			ON OFF			ON OFF		
VCB - LRF TRANSFORMER 12 MVA CONTROL			VCB - DYC INCOMER 3 CONTROL			VCB - EAF TRANSFORMER 42 MVA CONTROL		
On	Trip	Off	On	Trip	Off	On	Trip	Off
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
ON OFF			ON OFF			ON OFF		
VCB - 25TH HARMONIC FILTER CONTROL			VCB - DYC INCOMER 4 CONTROL			VCB - 3RD HARMONIC FILTER CONTROL		
On	Trip	Off	On	Trip	Off	On	Trip	Off
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ON OFF			ON OFF			ON OFF		

GPRS, Power and UPS Status



GPRS, Power and UPS Status



Caption : ■ GPRS Up ■ GPRS Down ■ Power On ■ Power Cut ■ UPS On ■ UPS Off

Substation / Feeders / Transformers

Captive Generation

Pumps / Motors

Buildings / Plants

Infrastructure Lighting

DG Performance Assessment

SEGR Ratio

Fuel level monitoring (timely topping up of fuel & prevention of Fuel theft)

Remote On/Off and Status Monitoring

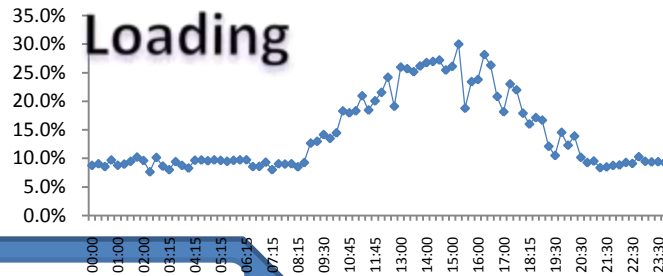
Running Hours

Maintenance Flags

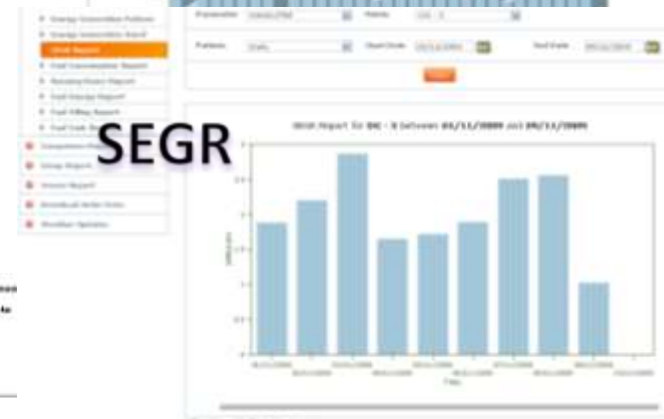
DG Power Quality Audit

Integrated Energy Management

Specific DG Reports



Captive Generation

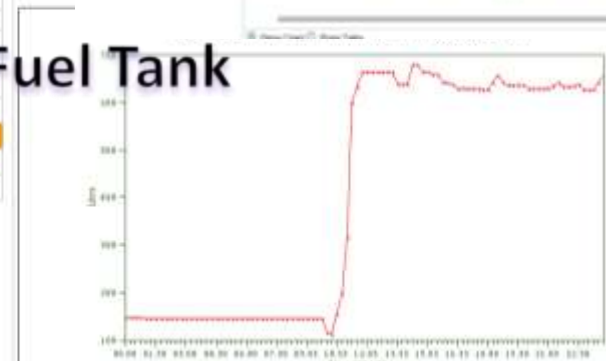


Fuel / Energy



- Energy Generation System
- Energy Generation Trend
- SEGR Report
- Fuel Consumption Report
- Warning Alarm Report
- Fuel Storage Report
- Oil in Fuel Tank Report
- Oil Level Report
- Oil Temperature Report
- Oil Viscosity Report
- Oil Tank Report
- Oil Tank Status
- Weather Station

Oil in Fuel Tank



Substation / Feeders / Transformers

Captive Generation

Pumps / Motors

Buildings / Plants

Infrastructure Lighting

Energy Monitoring

Flow Monitoring (by integrating with flow meter)

Web based Scheduling & Control

Event based Scheduling (by integrating with level sensor of storage tank)

Pump Efficiency

Maintenance Flags

Alerts and Alarms

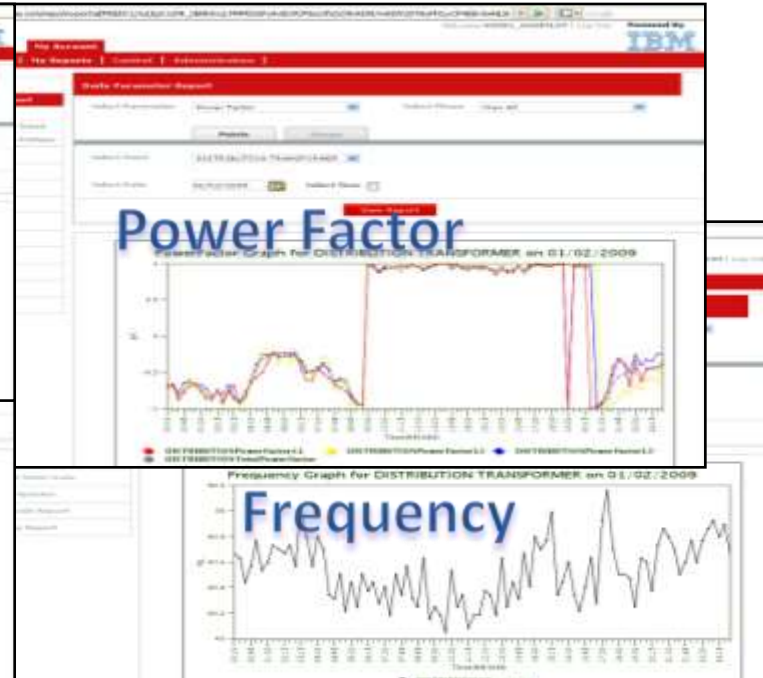
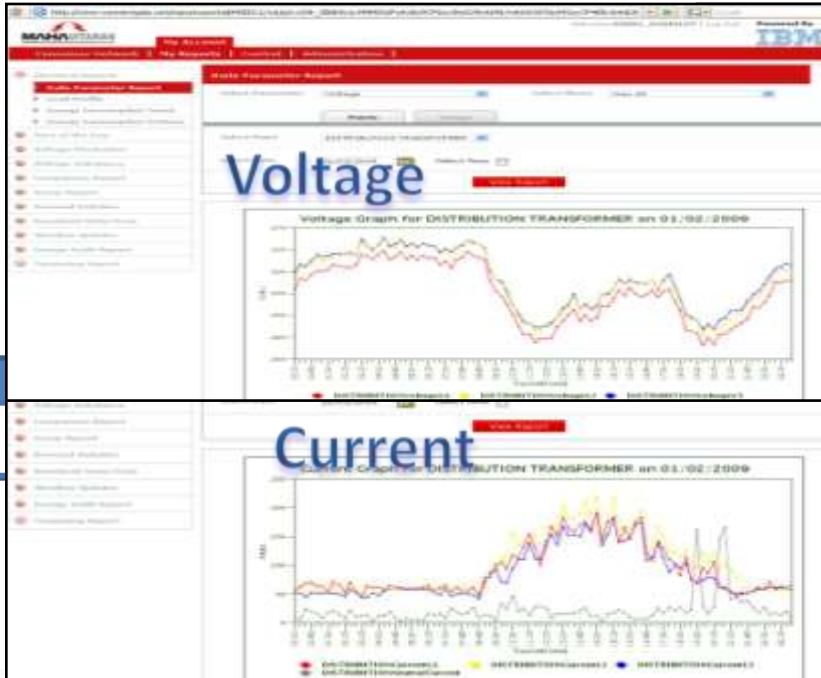
Remote On/Off and Status Monitoring

Running Hours

Power Quality Monitoring

DG Power Quality Audit

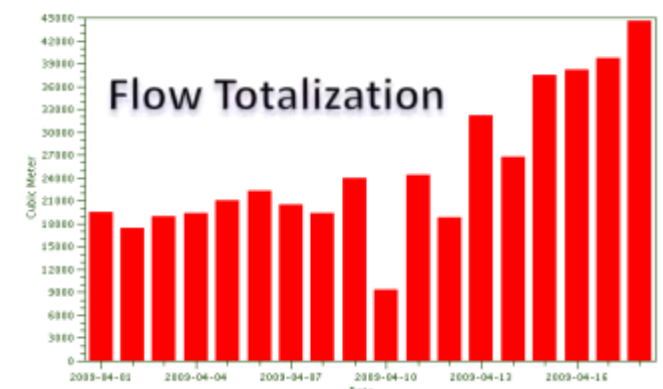
Energy / Flow Monitoring & Remote Management



Pumps / Motors



Total flow by STREAM FLOW 2 from 01/04/2009 to 10/04/2009 is 453333.57 Cubic Meter



Substation / Feeders / Transformers

Captive Generation

Pumps / Motors

Buildings / Plants

Infrastructure Lighting

Equipment Level Energy Monitoring & Accounting

Load Management

HVAC Load Monitoring

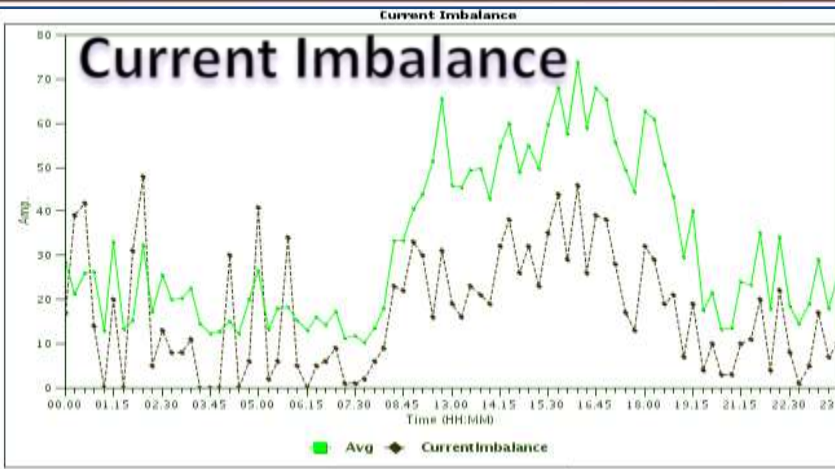
Power Quality Audit

Demand side management

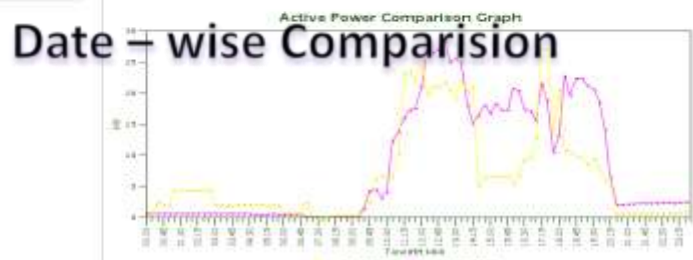
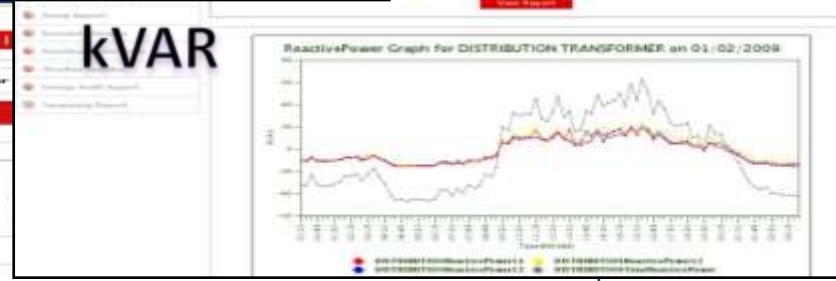
Remote On/Off and Status Monitoring

Energy Efficiency

Maintenance Flags



Buildings / Plants



Integrated Energy Management

Verticals & Applications

Substation / Feeders / Transformers

Captive Generation

Pumps / Motors

Buildings / Plants

Infrastructure Lighting

Energy Monitoring

Calendar based/Time Based Scheduling

Event based Scheduling (by integrating with sensor)

Power Conditioning

Voltage Regulation

Individual Phase On/Off

Asset Management

Enables Quick Fault Identification/Restoration

Remote On/Off and Status Monitoring

Burning Hour

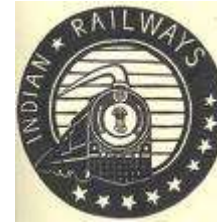
Maintenance Flags

Event Management

Customer References

(Indian Railways – Transportation)

- Enterprise Scope of Project
 - Energy Accounting
 - DG Monitoring
 - Controlling of Platform Lights, High Mast, Water Pumps
 - Electricity and Diesel Theft
 - Vendor and Quarter Billing
 - Locomotive Tracking for Energy Usage – State Wise
 - Maintaining 70 / 30 ratio
 - Maintenance Flags
 - Asset Management
- Project Spread : Across the country
Platforms, Utilities and Facilities
 - 16 zones
 - 120 divisions
 - 8000 platforms
 - 500 buildings
- Actual size towards the end of Deployment
 - No. of sensor / metering points : More than 100000
 - No. of backend users: 20 Users each across 120 Divisions
 - No. of unique rules configured: 250
 - No. of Data Packets Processed per minute: 60K



Snapshot : Firozpur Station

Customer References

(Brihanmumbai Electric Supply and Transport – Utility)

- Enterprise Scope of Project
 - Real-time Energy Auditing
 - Time of Day Demand / Energy
 - Consumer Billing for 1.1 million consumers
 - Asset Management
 - Connection Management
 - Load Forecasting
 - Street Light Management over the Web
- Project Spread : City of Mumbai
- Size of the Deployment
 - a. No. of sensor/metering points: 3500
 - b. No. of backend users: 50
 - c. No. of configured rule: 30 Per device



Snapshot : Colaba Substation

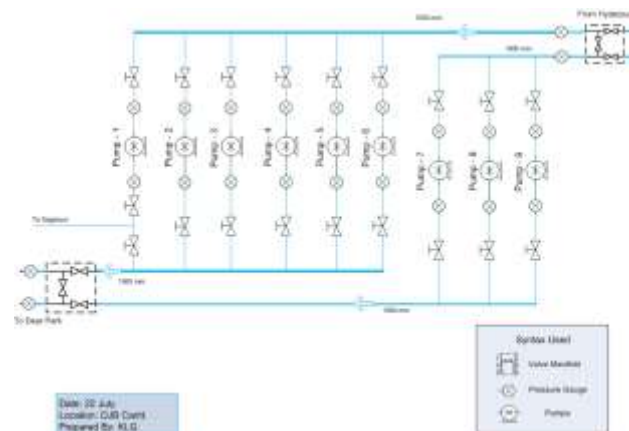
Customer References

(Delhi Jal Board - Water)

- Enterprise Scope of Project
 - Energy Accounting
 - Transformer Load Management
 - Flow Monitoring and Totalizing
 - Real time Evaluation of Specific Energy Consumption
 - Running Hour
 - Maintenance Flags
- Project Spread : State of Delhi
- Actual size towards the end of Deployment
 - a. No. of sensor points / Pumping Station : 18000
 - b. No. of backend users : 50
 - c. No. of configured rule : 15



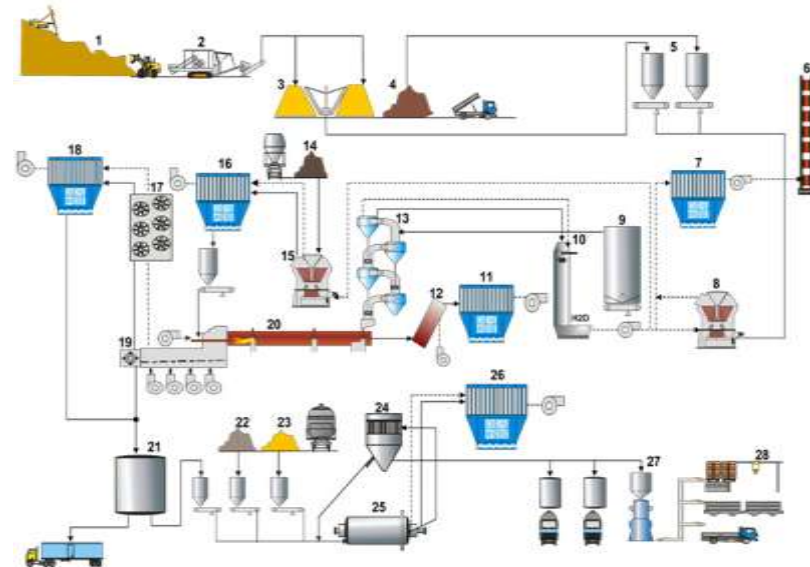
Snapshot : Delhi Jal Board Cantt.



Customer References

(Shree Cement Limited - Infrastructure)

- Scope of Project
 - Engineering, Supply & Commissioning Of Power Station Management System
 - Power System Monitoring
 - Intelligent Load Shedding
 - Automatic Generation Control & Economic Dispatch.
- Project Spread : Power Generation Unit for Shree Cement Ltd, Beawar, Rajasthan
- Size of the Deployment
 - a. No. of sensor points : 4000 Tags and 550 Meters
 - b. No. of backend users : 25
 - c. No. of configured rule : 300



Connectgaia Technology - Certifications



Connectgaia.com Ready for IBM Energy and Environment



Connectgaia SOA Certification by IBM



Connectgaia System Storage Certification by IBM



Vidushi Certification by IBM



Vidushi – SAP NetWeaver Certification



SAP Preferred Partner for Utilities India



CE Certification for Connectgaia.com

Connectgaia - Rewards & Recognitions



Global BEACON Award Winner 2010 – Cloud Computing Innovation



Among NASSCOM's 100 IT Innovators Of 2007



2007 CII National Award for Excellence in Energy Management



2007 Golden Peacock Award in the Innovative Product/Service Category



India Power Awards 2008 in Energy Efficiency & DSM



2008 Buildy Awards Finalist



2009 Best Lotus Energy and Environment (Green) Award



2008 IBM Best ISV Award Energy & Utilities Industry Solutions



2008 NASSCOM Innovation Awards (Finalist)



2008 IBM CTO Innovation IBM Ready for Energy & Environment Award (Finalist)



Ready for SOA Specialty



2009 Logica Global Innovation Venture Partner Award



2007 Asian Wall Street Journal Global Entrepolis@Singapore Award (Finalist)



Vidushi on SAP Netweaver Platform



SAP ASUG

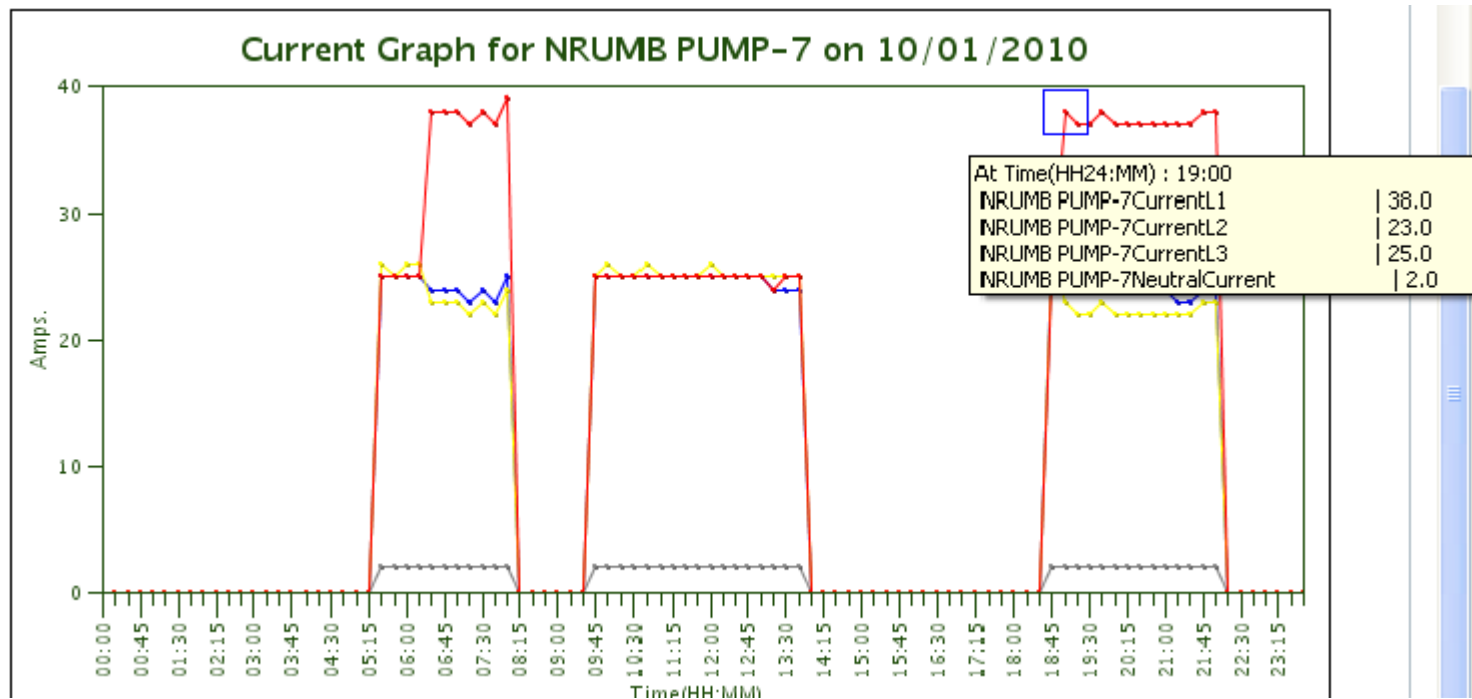


IBM Beacon Awards 2009

Connectgaia Energy Audit Vs Conventional Energy Audit

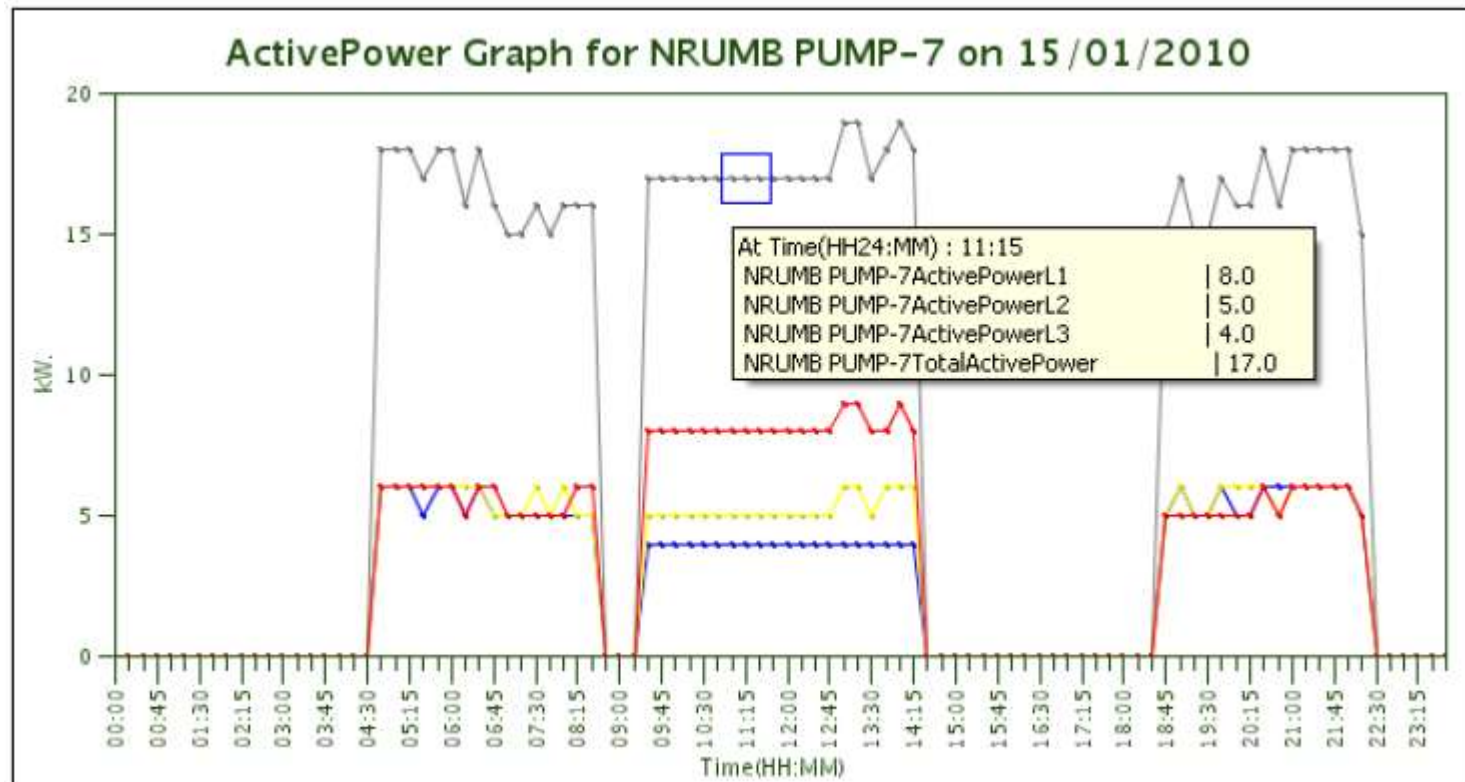
Continuous Real Time Online One Time

Report - Prior to Correction



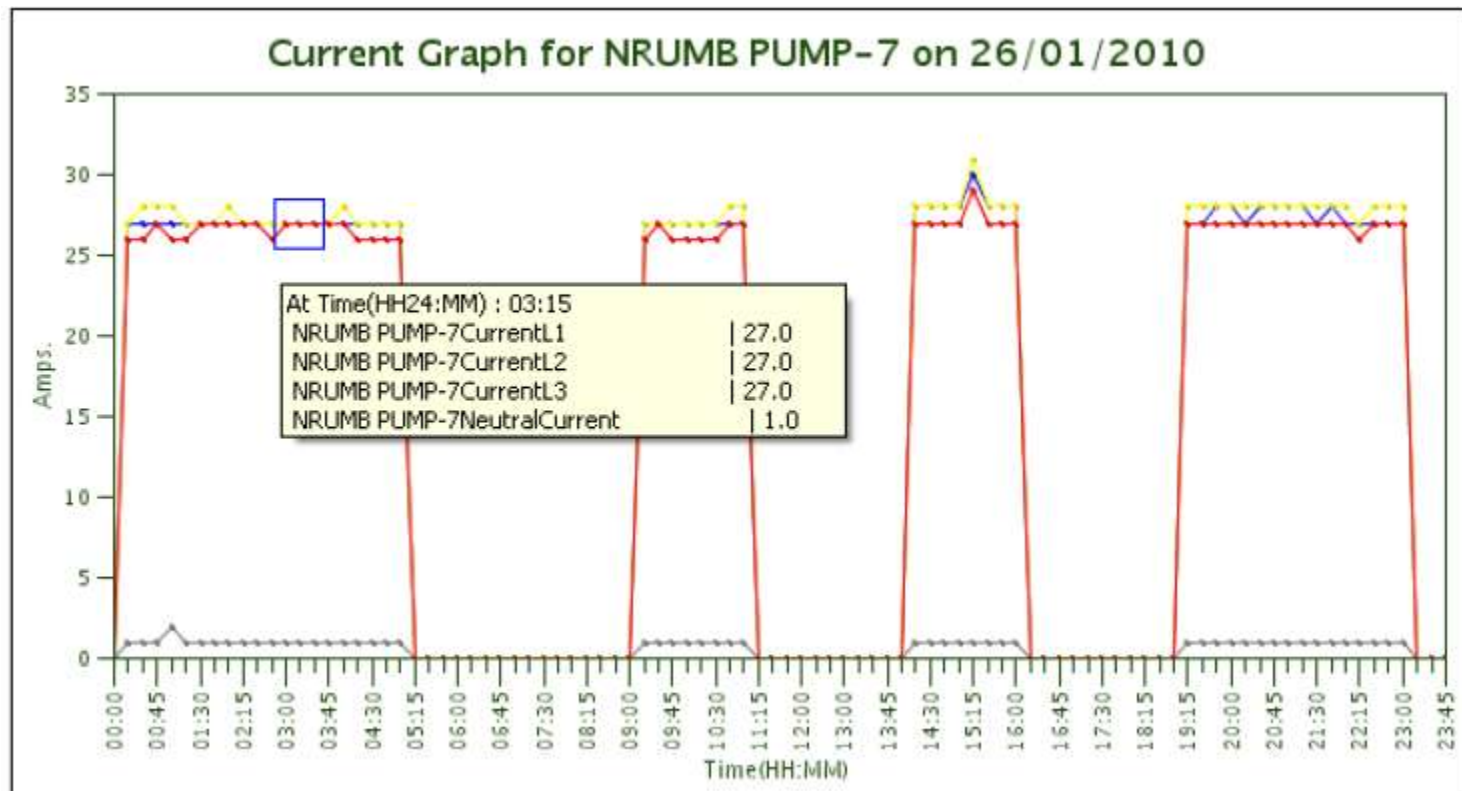
Connectgaia Energy Audit Vs Conventional Energy Audit Cont....

Report - Prior to Correction



Connectgaia Energy Audit Vs Conventional Energy Audit Cont....

Report - After Correction



Connectgaia Energy Management Vs Conventional Energy Management

CLOUD Computing over IBM platform

SCADA

- Software as a Service
- Hosting as a Service
- Wireless Data Communication
- Web Enabled

Connectgaia Energy Management Vs Conventional Energy Management

Cont....

- Economical
- Simpler Installation
- Accessible
- Scalable
- Flexible
- Maintenance
- Upgrades
- Security/ Redundancy
- Remote management
- User Friendly

Thank You!