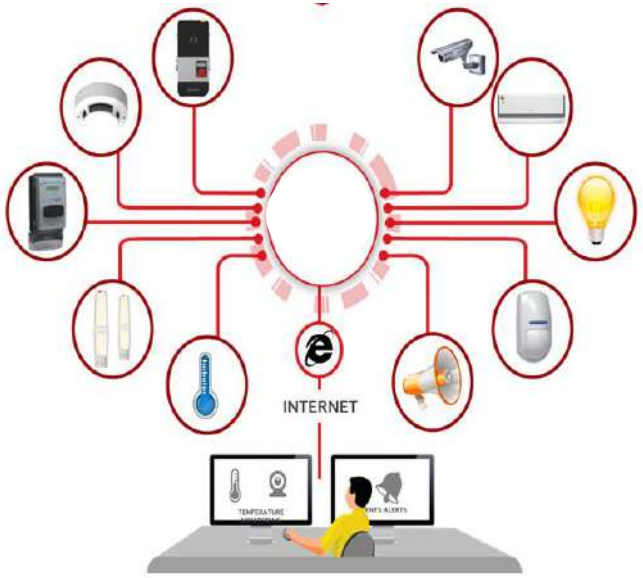
Energy IoT Platform

ROI
16 to 18
months

KiAM™
The Integration Expert

Improve your bottom line by saving Energy

Company – KIAM Pvt. Ltd.



Employee : 150+ (group C)
Presence : PAN India
An ISO 9001:2008

- KIAM (Formerly known Konnet Inter sec Pvt. Ltd.) provides solution and services to make multi location offices/ premises safe , secure and efficient by using unique IoT based integrated solution with 24*7 remote cloud hosted monitoring platform.
- Specialized in design, development and deployment of IoT technologies across PAN India.
- Solution provider for multi location offices - Retail stores, Bank, Warehouses, Quick service restaurants, Cloud kitchen, IT/ITES offices, Manufacturing.
- Designed and deployed video analytics technologies to provided unique solution to Retail store to make then safe, secure and efficient.
- Energy monitoring and saving design, deployment , monitoring and service support.
- Digital signage solution for multi location branding and marketing.
- Supplied and installed more than 15000+ IoT panels for Bank branch, ATM , 1500+ People Counting in Retail stores, 400+ energy management solutions across PAN India.
- Eco system of skilled in-house team and vendors across PAN to deploy solution with speed and quality and provide AMC services to keep system up and running.
- End to end services for IoT solutions from design to deploy and service support.

Inefficient usage of powered assets leading to high costs

Inefficient usage of assets (Air conditioning and Lighting)

- Massive inefficiencies in energy consumption at retail stores.
- Air Conditioning accounts for over 60% of energy bills.
- Penalties because of Power Factor and demand load.
- Over comfort to customer (24 C required but maintained at 20 C).
- Increasing in temperature by 1 degree can save 1% of energy.
- Unused or over used equipment cause abnormal energy consumption.

Lack of maintenance

- Maintenance is either on a scheduled basis or on a break-down basis.
- List of installed assets with their aging not available.
- Old equipment reduce efficiency.
- No tracking of maintenance activity and its benefits.

Lack of monitoring and control

- Energy audits are done only for compliance needs.
- Over reliance on human intervention.
- Energy consumption Information not available to branch manager in real-time.
- No centralized monitoring of energy consumption.
- Energy bills are seen at end of the month.
- All energy saving actions are reactive.

High and ever increasing energy costs

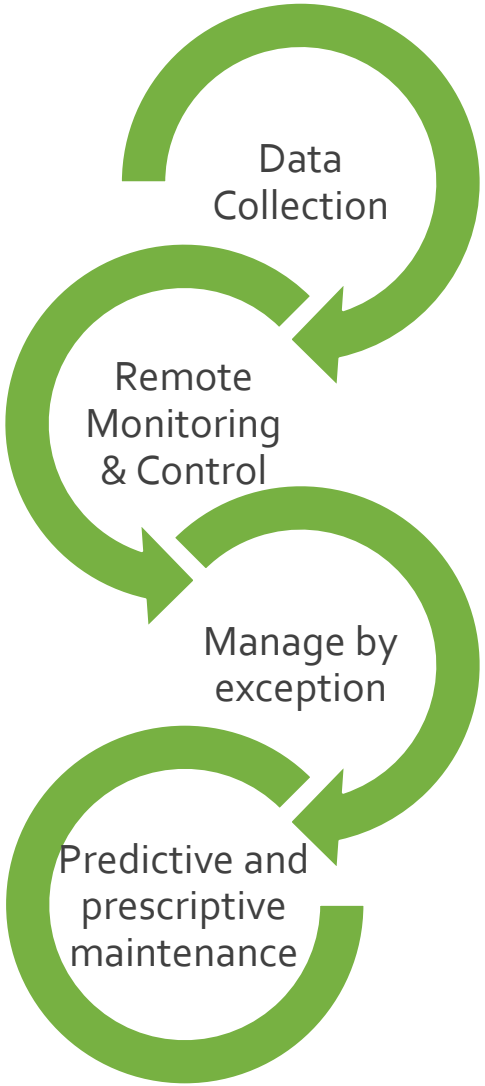
High maintenance costs coupled with frequent break-downs

High environmental cost increasing carbon footprint

Inefficiency gets multiplied by no of branches.

Improper energy installation causes safety hazards

Methodology to save energy in Branches



Data collection

- Temperature and energy data collection.
- Customer pattern through retail analytics.
- Location wise Environmental conditions.
- Co2 / comfort monitoring.
- Big day events.

Monitoring and control - Centrally

- Energy and temperature data available in real-time.
- Historical data analysis and comparison and decision making.
- Control of AC with standard operating practices and using predictive analysis.
- No human error as automated control of equipment..
- All faults and events information available to take immediate action.
- Control schedules can be created for week, month and year.
- Flexibility to manage exceptions locally in store with audit log.
- Customer patter used to optimize energy.
- Comfort monitoring on real-time and take actions.

Manage assets and maintenance activity.

- All asset information available centrally with aging.
- All maintenance activity tracked centrally.
- Effectiveness of maintenance measured by saving in energy
- Faults and usage used to for predictive maintenance.

Energy Monitoring Solutions

	Load Side Saving and Power quality improvement.	Energy Monitoring	Power availability monitoring	Energy Management and Control	Centralized Monitoring.
Solution	**E-PowaTrim** **E-Optimize**. 6 to 8 % Energy Saving.	**E-SmartMeter** Data collection is important for management.	**E-UPS,DG monitoring** Increase power availability. Improves business availability.	**E-IoTControl** 12 to 18% Energy saving.	**E-CMSMonitor** Manage Centrally.
Benefits	• Improves power quality. • Helps stabilize voltage and reduces input noise • Saves Energy. • Avoids load in-balance.	• Monitors multiple parameters. • Helps improve energy saving. • Keep eye on critical parameters like power factor. • Online audit of energy reduces physical audit.	• Monitor DG parameters like consumption, fuel level, battery, runtime, usage • UPS parameters like batter level, output voltage. • Improves efficiency of DG and UPS.	• Control AC/ HVAC with smart schedule. • Keep adequate temperature to save energy. • Capture all failure parameter. • SOP based AC/HVAC control.	• Centralized asset management. • Tracking energy from central location. • Realtime audit and health report. • Preventive maintenance schedule. • AMC management.

BOQ/ Items

Item	Purpose	Remark
E-PowaTrim	Installed in Load Side, ElectroMagnatic, Installed in as shunt. For load more than 120KVA.	Used one module per 120KVA load.
E-Optimize	Installed on load size, Energy stabilizer, adjust the output voltage. For load less than 50 KVA.	Used one module for 30KVA.
E-SmartMeter	Smart Energy meter for energy parameter monitoring, IoT enabled	Energy meter per incomer, can be installed per floor big premises.
E-DGMonitor	DG monitoring, IoT enabled	Installed on DG one unit per DG
E-UPSMonitor	UPS monitoring, IoT Enabled	One unit per UPS
E-ACControl	AC Control through IR Blaster, IoT Enabled.	One unit per AC, or VRF unit.
E-HVAC Control	HVAC Control through valve and VFD controlled Fan IoT Enabled.	One unit per HVAC
E-IOT-Gateway	Connect all IoT Devices to cloud hosted software for central monitoring	Gateway which communicates individual devices over WiFi.
E-CMS-Platform	Centralized monitoring and control software with asset information and AMC management feature	Cloud hosted software with Realtime communication
E-CMS Services	Service support to monitor all deviations and take actions to save energy.	Dedicated skilled team to manage operation

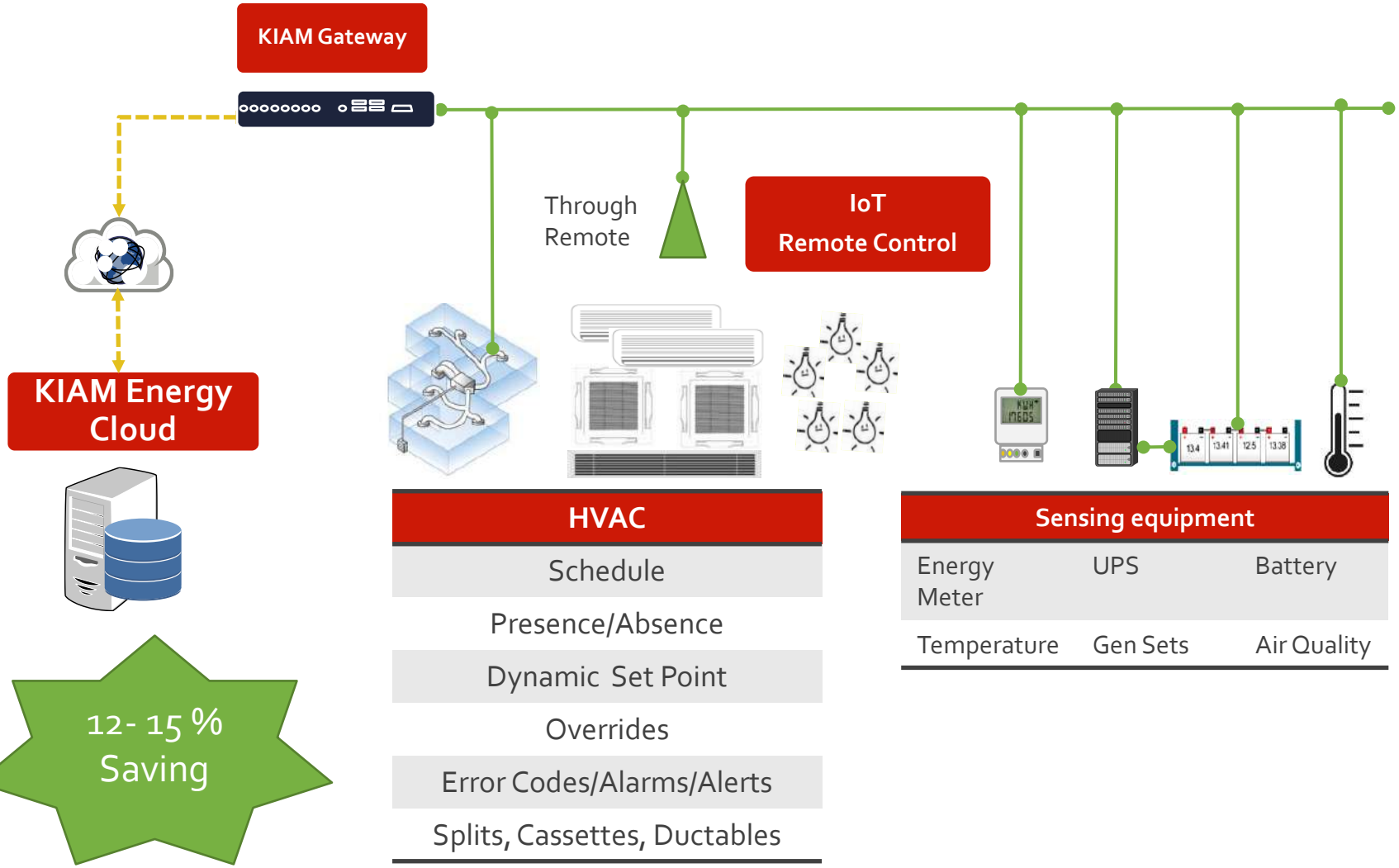
BOQ

Size	Branches	Sq Feet	KVA	E-Optimizer	E-Pawa	E-SmartMeter	E-IoTControl	E-Gateway	E-DG/UPS
Small	358	5K	30	1	0	1	8	1	2
Medium	6	10K	200	0	2	2	16	1	4
Big	18	40K	400	0	4	4	32	2	8
Large	4	100K	1000	0	8	8	64	4	16

Features

Energy Meters	• Energy, Voltage , Current, Power Factor, Hz…35 Parameters • Sanction load Vs Max Demand • Any Energy meter can be integrated
HVAC	• Full Spectrum HVAC : Splits , Casettes , Ducted ,Chillers , AHU's and FCU's • Smart Schedule • Energy Savings : Less than 12 month ROI
DG Sets	• Fuel Consumption analysis by ML & Sensor • Battery Disconnect , Battery Voltage • Energy Management • Any Energy meter can be integrated
Batteries	• Battery Bus Voltage • Deviation from Nominal Voltage • Battery health alert
Lighting	• Schedules • Motion enabled

IoT Solution for energy management

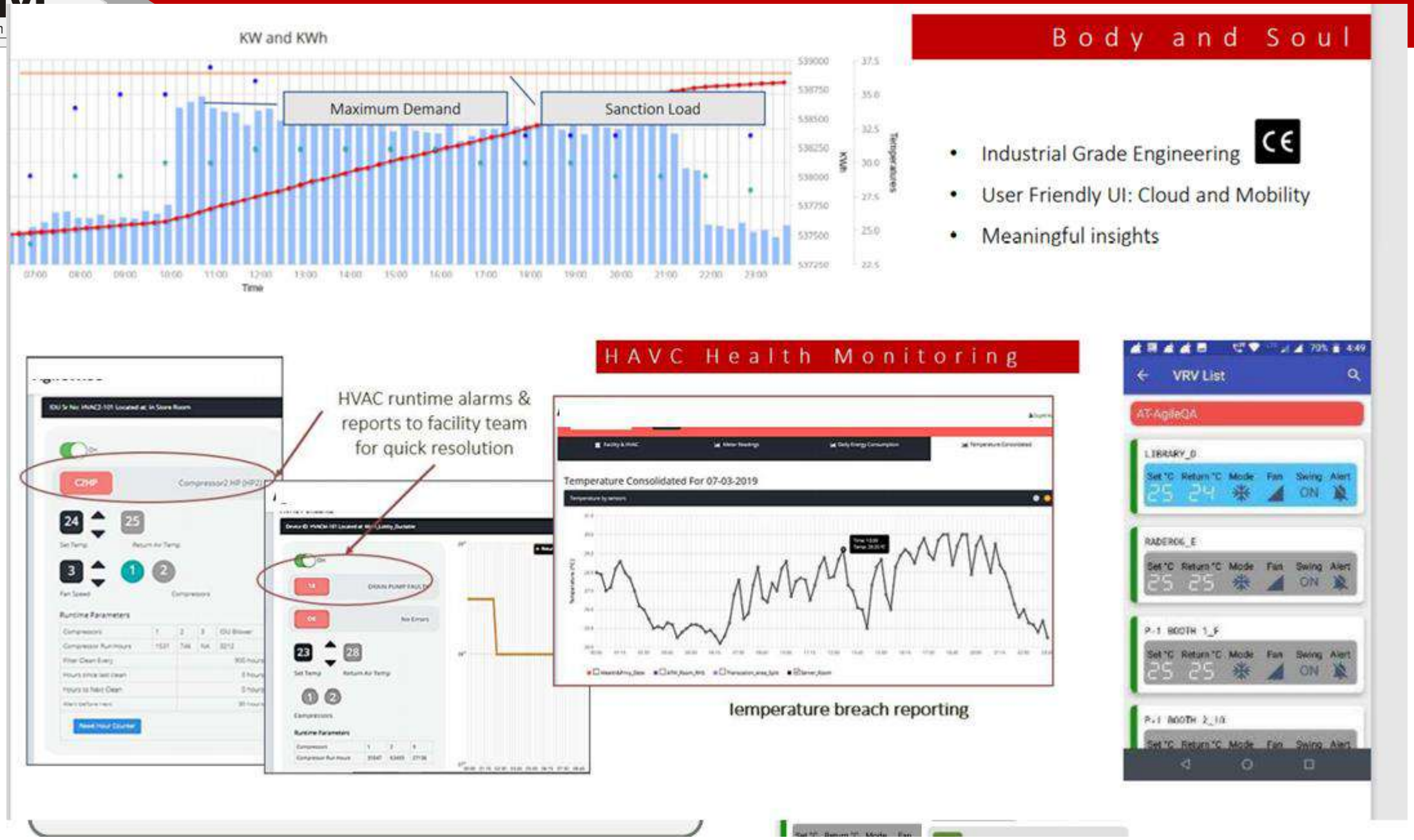


HVAC
Schedule
Presence/Absence
Dynamic Set Point
Overrides
Error Codes/Alarms/Alerts
Splits, Cassettes, Ductables

Sensing equipment		
Energy Meter	UPS	Battery
Temperature	Gen Sets	Air Quality

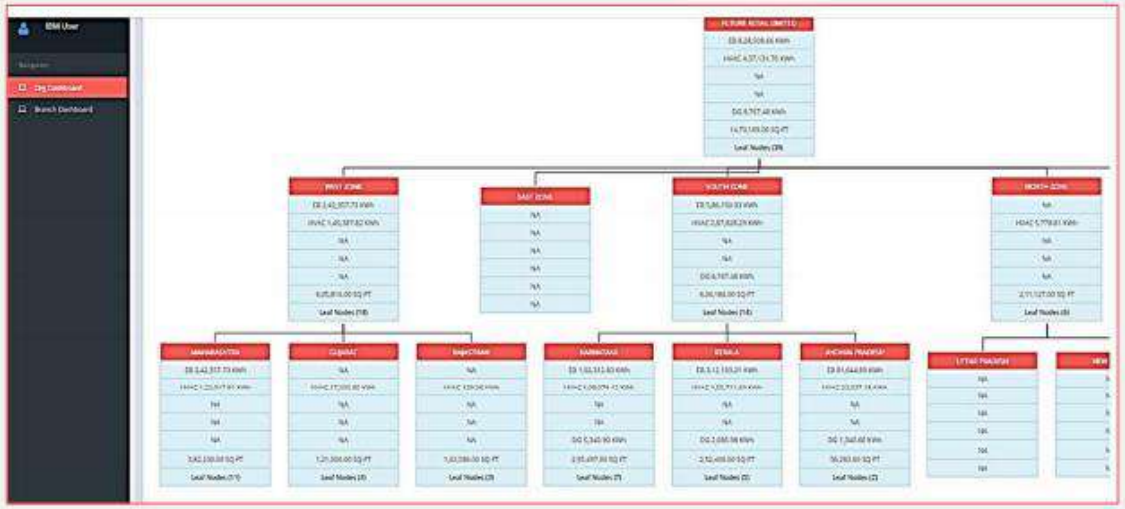
- Future proof IoT solution.
- Wifi - Wireless
- Control AC as per standard (No warranty issues) .
- Use same IR remote interface to control AC.
- Cloud hosted solution.
- Centrally managed.

- ROI less than 1 year
- 12 to 15 % energy saving.
- Predictive maintenance management.
- Comfort to customer.
- Green building compliant.
- Save power save environment.
- Control over store assets centrally
- **Improved bottom line.**


KW and KWh
Maximum Demand
Sanction Load
Time
Body and Soul
Industrial Grade Engineering
User Friendly UI: Cloud and Mobility
Meaningful insights
HAVC Health Monitoring
HVAC runtime alarms & reports to facility team for quick resolution
Temperature Consolidated For 07-03-2019
Temperature breach reporting
VRV List
AT-AgileQA
LIBRARY_0
RADEROL_E
P-1 BOOTH 1_F
P-1 BOOTH 2_10

Screenshots

Live implementation Screen shots
Energy Monitoring
Ducted HVAC Remote Status and Control

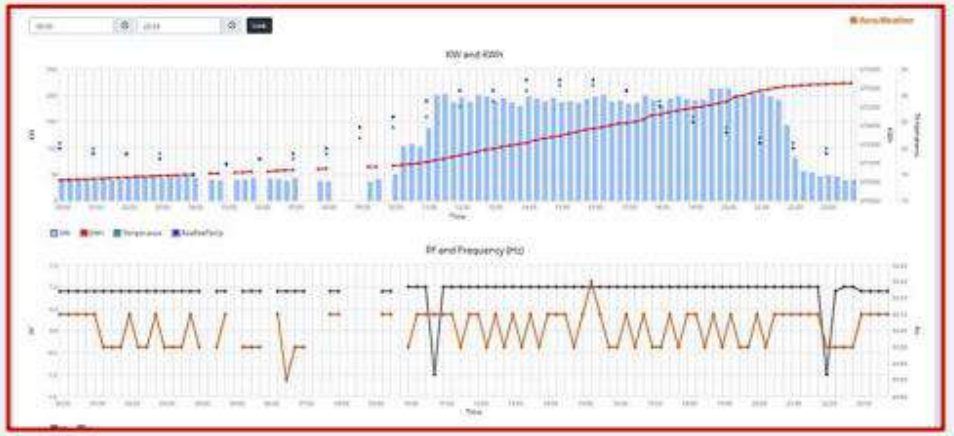


Sample Screen shot of Organization Hierarchy

- Roll up and drill down of accumulated Energy
- Roll up and drill down of submeter data by load type
- Outlier region or facility

Live implementation Screen shot

Screenshots



Live implementation Screen shots
Energy Monitoring
Ducted HVAC Remote Status and Control

Live implementation Screen shots Temperature, Humidity and CO2 monitoring

Mobile APP Live Implementation

- Any Equipment
- Anywhere
- Alerts & Control

Energy monitoring

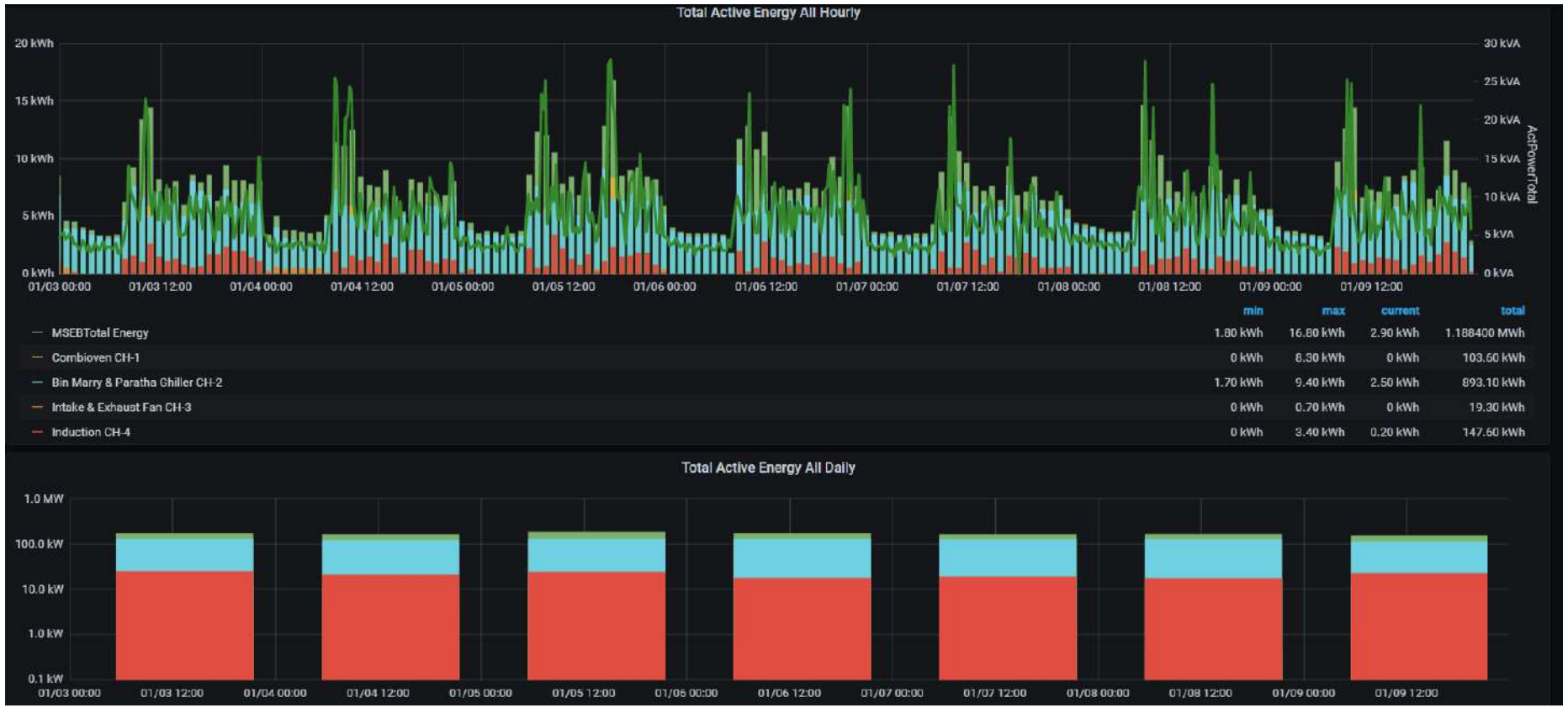
ENERGY MONITORING SYSTEM:

Energy monitoring:

- ✓ Alerts with email/sms is sent o the authorized person
- ✓ Energy Graph: Active power R/Y/B graph and data
- ✓ Energy consumption data in tabular format
- ✓ Zone details: like active zone
- ✓ Bar graph for Events

- Multi Function Energy Meter
- 4 channel 3Phase.
- Easy to install
- UTP based connection for CT

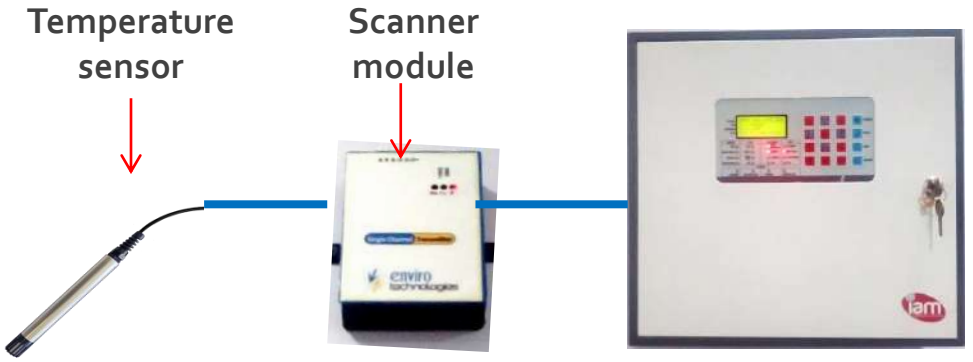
Energy Dashboard



- Energy Consumption dashboarding
- Hourly, daily, weekly, monthly KWH data
- Compare across phase
- Monitor DG and MSEB consumption
- Power factor, KVR, KW pattern monitoring
- Data stored for 3 years for comparison
- Fault monitoring
- Compare energy and temperature data

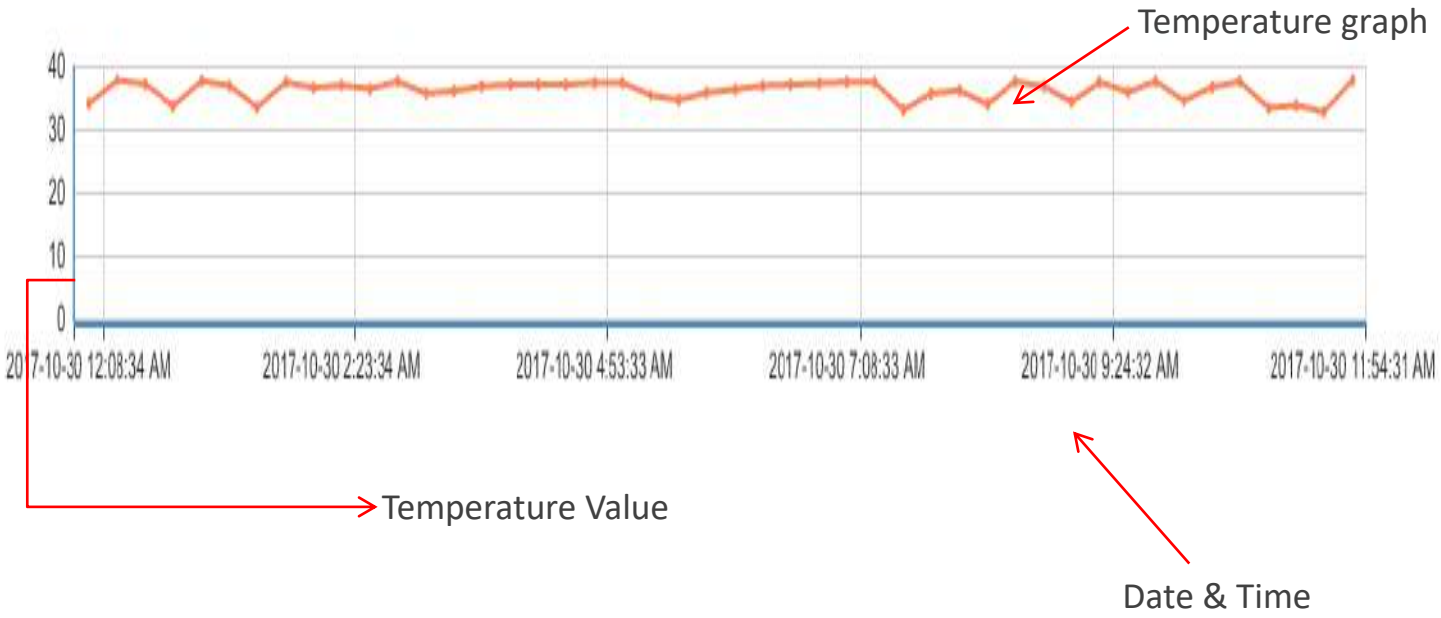
Temperature monitoring

TEMPERATURE MONITORING SYSTEM:



Temperature Graph:

- ✓ This graph shows hurly/Daily temperature consumption
- ✓ High Temp. Avg. Tem & Low Temp figures per day
- ✓ Temperature value with Date and Time



BENEFITS OF TEMRERETURE MONITORING

- ❑ **REAL TIME** ENERGY CONSUMPTION DATA,
- ❑ MOST OF THE TIME THE AIR CONDITIONERS ARE ON AFTER SHOP IS CLOSED, IAM MONITORING SERVICES WILL ALERT YOU IMMEDIATELY BY A CALL TO THE SECURITY PERSON
- ❑ THIS MAKES YOU EASY TO AVOID EXCESS USAGES OF AIR CONDITIONERS

Solution Offered and Components

STORE SYSTEM

TEMPERETURE MONIOTRING

ENERGY MONITORING

CCTV MONIOTRING

SHOP OPEN-CLOSE MONITORING

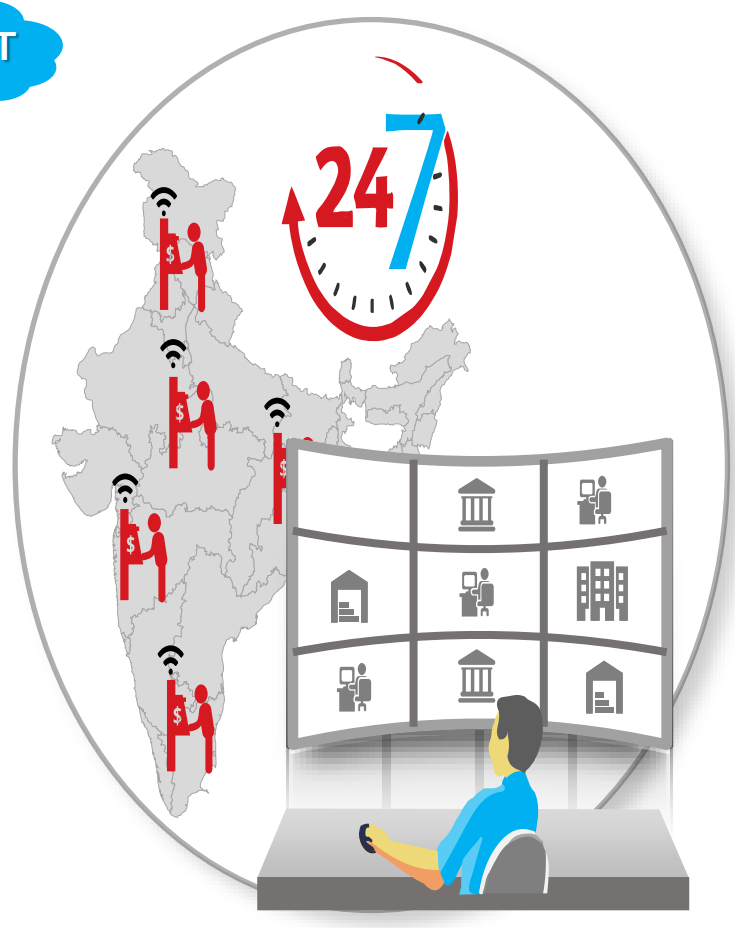
FIRE ALARM MONIOTRING

UNAUTHORIZED MONITORING

Integrated Control Panel

INTERNET

CENTRALIZED MONITORING STATION



ALERT & NOTIFICATIONS

HEAD OFFICE

Realtime Response

ONLINE REPORTS

WEB LOGIN AVAILABLE

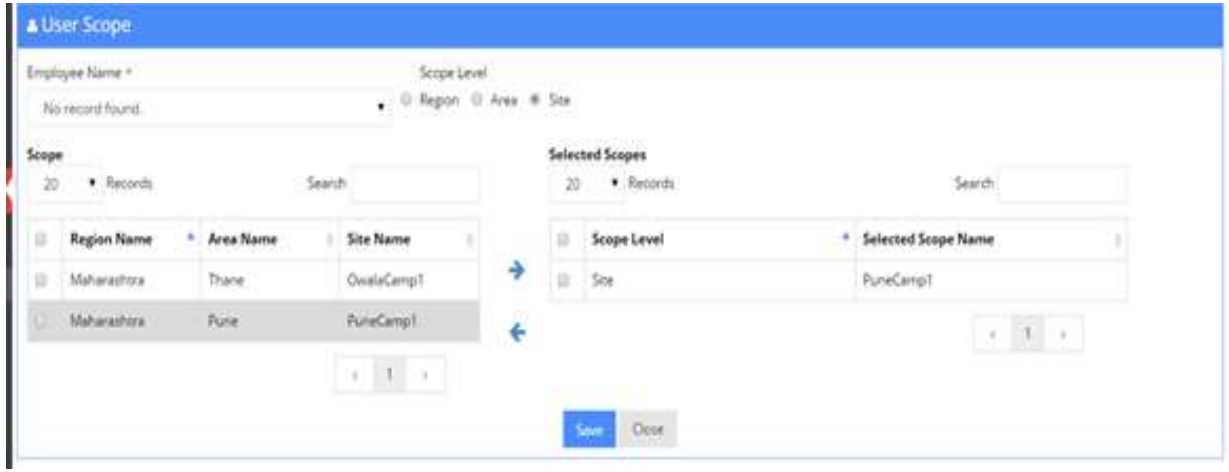
EMAIL/SMS

MOBILE APP.

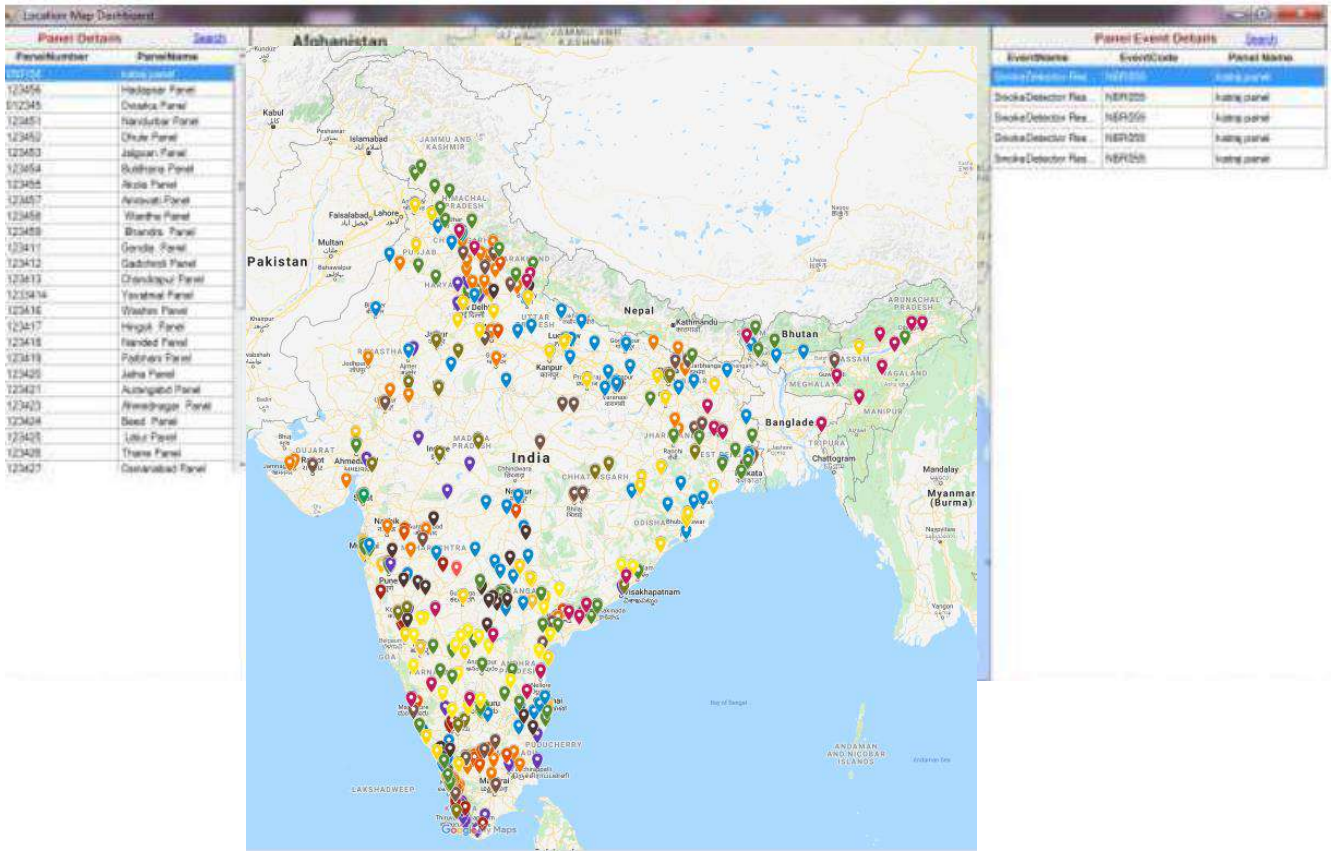
User Role management and SOP per site

Different user roles and Scope management

- We can create login where user can be managed by
  - Site Wise
  - Area Wise
  - Region wise
- Different roles
  - Read only
  - Read write
  - Form wise role
  - Admin
  - Operator
- Admin can view all sites
- Operator can view selected sites
- Management can view sites ae per region
- Individual store management can view his store data
- Escalation matrix and SOP per site.

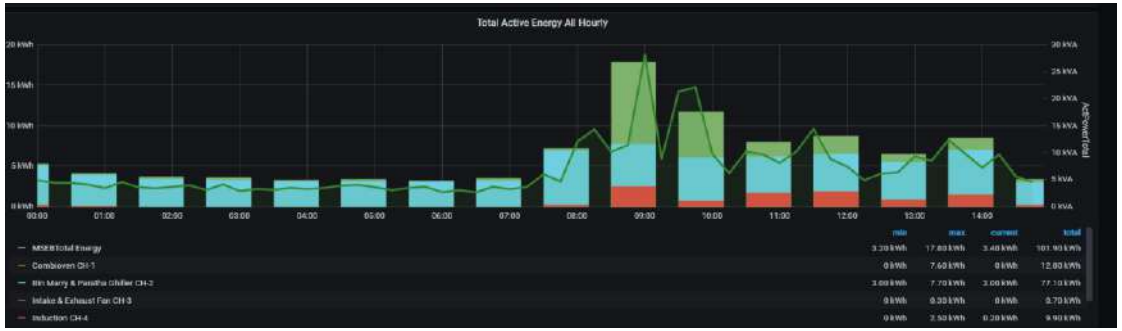


Google map view



Google map view to see status of alarms at each location

Detailed View



Power Source monitoring

Power source monitoring helps us to increase power availability.

- Row power source
- UPS Power availability
- DG Power

Time stamped Events generated when power switchover happens.
Know DG On time in day/ week/ Month

AC Power

UPS

Diesel Generator

Solar Power

Smart Energy stabilizer and optimizer

- 10KVA / 15KVA / 30KVA
- Reports all electrical conditions to a dashboard that is constantly evaluating electrical risks. Electrical audits are no longer an annual event.
- The POWER easy Smart Optimizers rely on automatic voltage optimization to save energy. It uses Machine Learning to adjust the output voltage to an optimal level for varying loads. It does this automatically.
- POWER easy Smart Optimizers uses Machine Learning to determine the optimal voltage and save energy automatically whereas Servo stabilizers have a preselected voltage output.
- POWER easy Smart Optimizers are 5X times smaller than a servo stabilizer.
- POWER easy Smart Optimizers are is 99% efficient whereas servo stabilizers are 96% efficient.
- 18-24 month payback period.

Smart DB with power optimizer

- Smart DB provides energy monitoring, stabilizer and MCB, RCCB in single box.
- Ideal solution for Bank branches especially rural area where power fluctuation is there.
- Improves energy subsystem with neat and clean installation.
- Increases life of electrical equipment and saves energy
- If you choose to install the POWER easy Smart DB with optimizer you do not need to install any additional stabilizer or surge protection devices.
- The standards require you to install MCB for short circuit and overload protection and RCCB for protection from electric shocks.
- In all there are 20 electrical faults which are monitored.

Energy saving using Patented technology.

How PowaTRIM Works

The patented technology is a dynamic, passive, resonance free magnetic field induction system that reduces kVA/kW demand. **PowaTRIM** provides the following technology:

1. **Power generation** - through our proprietary chokes we generate voltage and current from each phase per Faraday's/Lenz's law that is injected into the adjacent phases as usable power.
2. **Power factor correction** - passive resonance-free PFC to reduce the demand of reactive non-power currents.
3. **Transient energy conversion** - through the surge protections self-healing magnetic chokes – energy above the operational voltage is absorbed, re-constituted and returned to the customer.
4. **Magnetic phase balancing** - of voltage and current to safely reduce waste, demand, friction and heat in loads.
5. **Harmonic filtering** - of non-power currents to reduce the billed kWh consumption and improve power quality.

6-8 % Saving

- Electricity savings are achieved by harvesting the energy wasted by inductive loads, which in turn leads to a reduction of kW and kVA power.
- PowaTrim Saves energy from 5% to 13% depending on load.
- ROI is sub two years.

See the Difference

VAUXHALL / GM, LONDON

CHARACTERISTICS	POWATRIM		DELTA
	OFF	ON	
kW	458	441	-17
kVa	588	482	-106
kVar	368	193	-175
CURRENT	709	569	-140
VOLTAGE	420	429	9
POWER FACTOR	0.78	0.92	0.14

HYATT REGENCY / DELHI

CHARACTERISTICS	POWATRIM		DELTA
	OFF	ON	
kW	718	696	-22
kVa	751	697	-54
kVar	348	216	-132
CURRENT	923	862	-61
VOLTAGE	425	431	6
POWER FACTOR	0.96	1.0	0.04

Group Companies

Integrated Active Monitoring Pvt. Ltd.

- Centralized Monitoring for Safety, Security, and Business efficiency solutions.
- PAN India Implementation of multi location projects.
- Design, supply, Installation, Support, AMC and monitoring of unique IoT solutions.
- Retail automation solution design and deployment.
- Electronic cash-less Vending machine deployment.
- Video analytics deployment.

Konnet Inter Sec Pvt. Ltd.

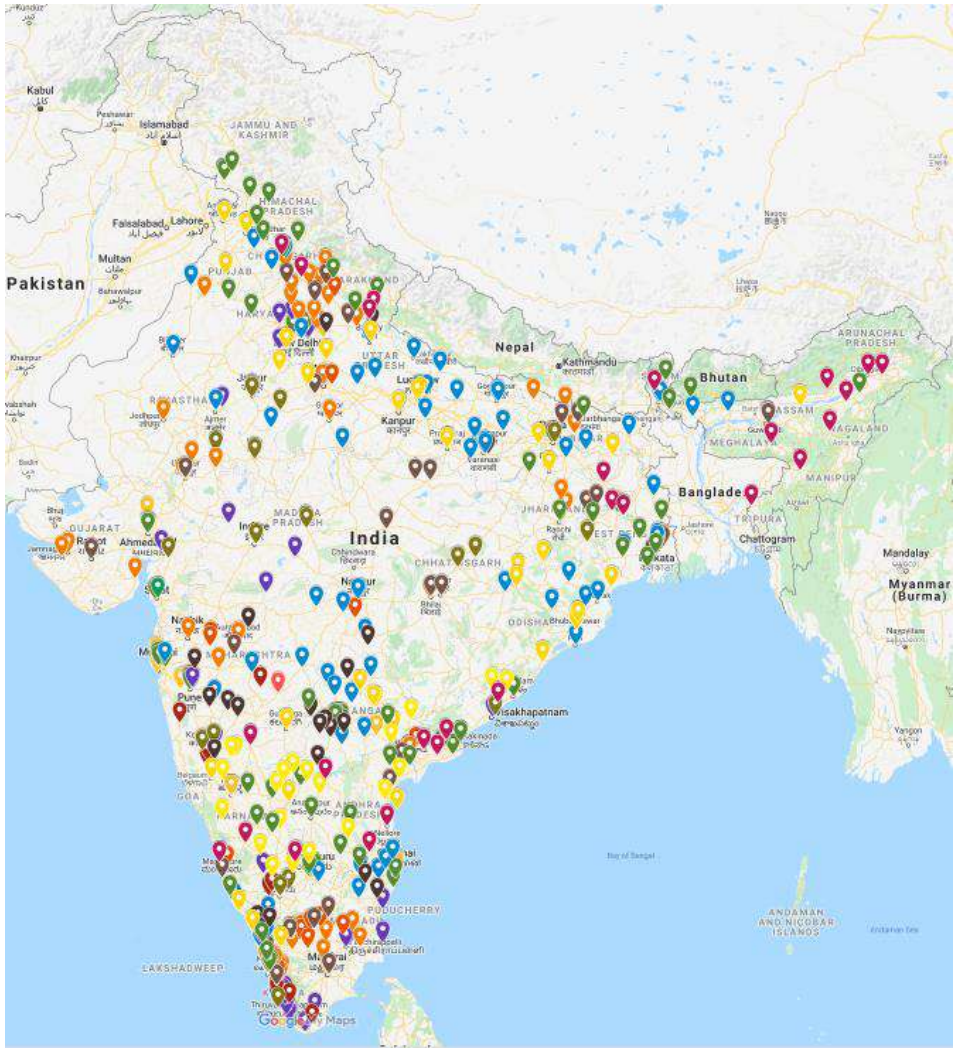
- Safety and Security solutions for Banking sector.
- PAN India Deployment of Solutions with AMC.
- Value Added reseller for Allegion Plc. - Interflex & Schlage
- System Integration for Energy Efficiency Products - Agile Works.
- Enterprise Access controller solution for big IT/ITES enterprise companies.

Smart i Electronics Systems Pvt. Ltd.

- 14 years in design, development and manufacturing of electronic products.
- Specialized in Security product.
- PAN India presence with 10 distributors and 600+ Integrators.
- Access control, Time attendance, E-surveillance Products.
- 25000 banks are installed with Smart I Unique e-surveillance products.
- Leading manufacturer of quality electronic security products.

Capability and Infrastructure

Retail Installation Across India



Team : 60

Vendors: 120

Installation : 3000+

Installation across PAN India

Retail stores (People counting)	1500
Temples Jio Live	30
Banks	1000
Pathology Labs	80
Quick Service Restaurant	50
Warehouse	30
Energy solution	450

Infrastructure

- 4000 sq-feet area.
- Power backup.
- Datacentre.
- 24X7 operation.
- Retail innovation Lab.

IAM Capabilities – Technology and Infrastructure

REMOTE MONITORING TEAM

PILOT INSTALLATION IN LAB

- 4000 Sq-feet office area with dedicated space for Store and Office area
- Power backup UPS followed by DG
- State of Art Datacentre with redundant dedicated leased lines
- 24X7 operation management.
- 24x7 Command and control for alert and CCTV monitoring.
- Retail innovation Lab for all new Product Testing

IAM Capabilities – People

60+ IN-HOUSE SKILLED PROFESSIONALS

- 10+ CMS executive for Installation work monitoring
- 5+ Tech Executives for remote troubleshooting
- 5+ Geography wise Project coordinators
- 3 Dedicated Project Managers
- Installation Quality Monitoring team
- PAN India AMC Management team
- Complete Service Delivery team

ASSOCIATION WITH 120+ SERVICE PARTNERS

- Collaboration with service partners from last 3 years
- 100+ registered service partners with IAM
- 10+ service partners have PAN India Presence
- Service Partners with expertise to Verticals
  - Banking Sector
  - Healthcare Pathology Sector
  - Retail Store Apparels; Footwear; CDIT
  - Temple Project Installations

IAM Capabilities - Installation Processes

COMPREHENSIVE PROCESSES

- Standard Operating Processes for Installation Guidelines
- Detailed Installation Single Line Diagram (SLD) availability
- Templates for Installation Forms; Customer Training; HOTO; Post installation Escalation Matrix for Complaint Management

AMC MANAGEMENT

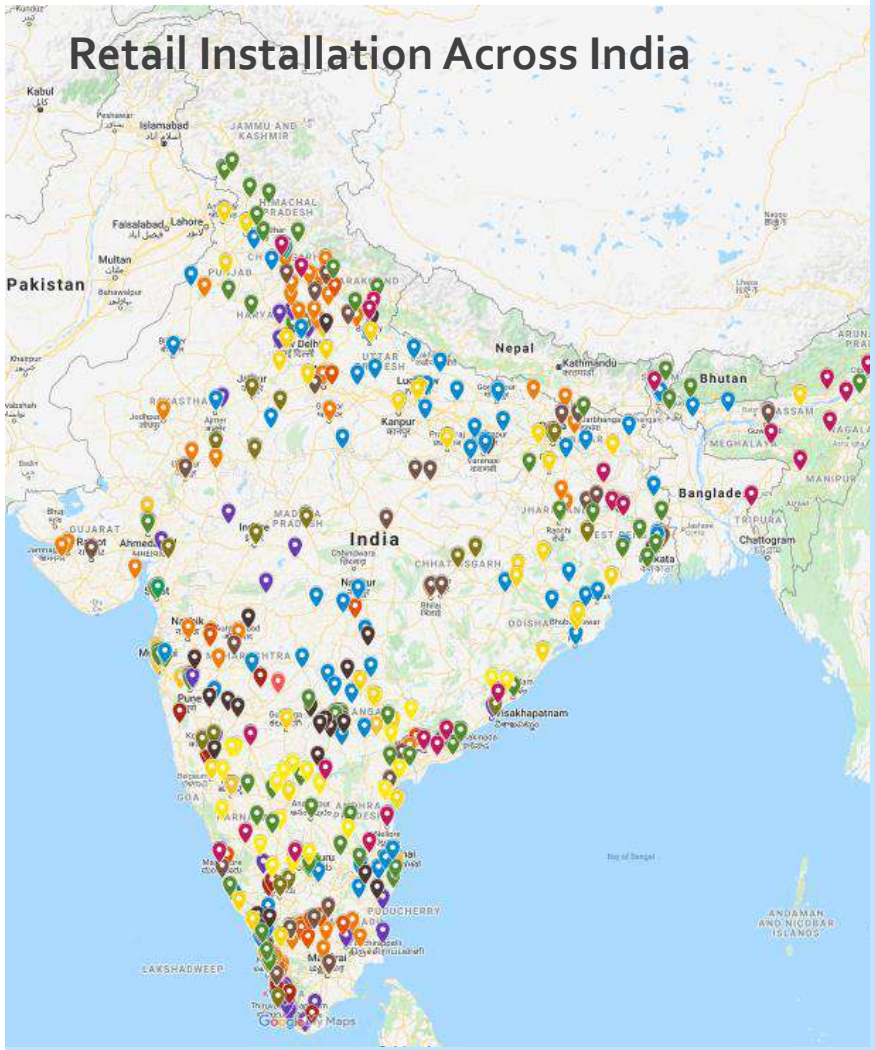
- AMC Planner and Scheduling
- AMC Schedule Adherence
- Proactive Client Communication
- Detailed Documentation for AMC Visits
- Ticketing System for AMC Visits and SLA Measurement

Quality Management

- Pilot Installation at In-house Lab to check performance of system and challenges to be addressed
- Installation Quality Monitoring Processes
- Surprise Installation Field Visits for Installation Quality Check
- Process Improvement based on actual field challenges
- Customer Satisfaction Index Measurement

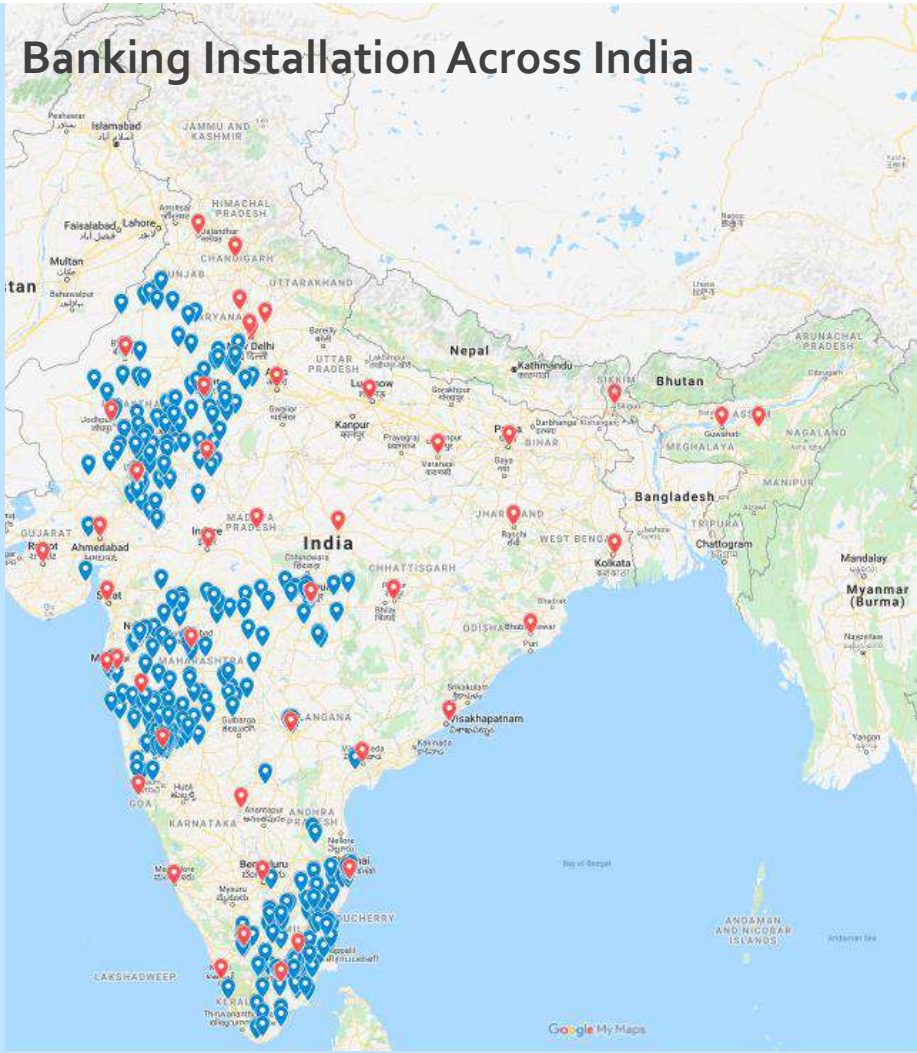
Installation Capability

Retail Installation Across India



- Design, Procure, Supply, Install and Service support
- Dedicated Project Management Team.
- Own employee for supervision across all Metro in India.
- 100+ Trained vendors across India.
- 24x7 Project management support.
- Centrally Managed Installation Operations.
- Full Documentation for Installation and AMC.
- Close communication with Customer for Planning and deployment.
- End to end Management of Project.
- Closely work with OEM to get product modified as per customer need.
- Physical and remote Site survey for BOQ.
- Daily / Weekly work progress Management reporting.
- 24x7 remote monitoring of equipment and alerts.

Banking Installation Across India



Committed to Make Multi Location Office Safe, Secure and Efficient Using IoT Technologies.

At the end

KiAM™ The Integration Expert

www.kiam.in

Solution Video

https://youtu.be/Wx1pq4cSKd4

https://youtu.be/uTHICR_W9tg

Energy Efficiency

https://www.youtube.com/watch?v=ldMtv4HMHCA

Retail Automation

https://www.youtube.com/watch?v=wzWaicfujQA