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Case Study

Orvito Enterprise Intelligence™

The Challenge
Client Requirements

Our client's 3 story building located in Hyderabad (India) acts as the nerve center for company and is the hub for its operations spread across Southern India. Approximately one hundred employees work out of this corporate office that is spread across 13,580 square feet.

Due to increasing energy costs, the client approached Orvito to deploy an energy management solution that can reduce the energy costs with minimal intrusion in their facility. The office needed to connect 38 circuits to comprehensively monitor and control its devices i.e. air conditioning units, lights, inverters etc.
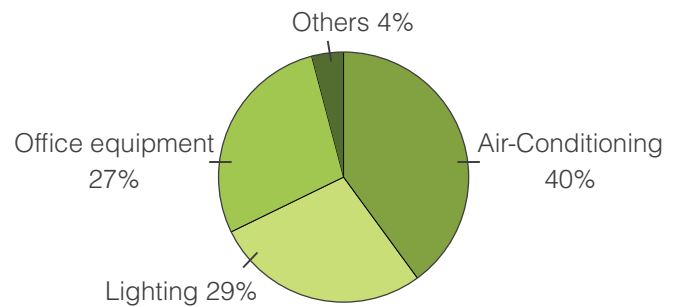
Solution Description

India has witnessed an increased energy usage in recent years which in turn has increased the energy bills. This scenario has led to an urgent need to monitor and analyze the energy usage. Based on our client's requirements, Orvito Enterprise Intelligence ™ solution was deployed at their facility. The entire process was done through a structured approach- AAIM (Assess, Analyze, Implement and Measure)

Phase One: Assess and Analyze

Orvito deployed its Orvito Enterprise Intelligence (OEI™) solution which gathers and analyzes the energy usage. OEI™ comprises Orvito's Smart Switch Panels (SSPs), a central Smart Hub for monitoring and controlling the SSPs, and Orvito Cloud for data back-up and advanced analytics. For viewing the analytics and monitoring the energy usage, Orvito provided a browser-based Web Access application.

Actual energy consumption in the building:

Others 4%
Office equipment 27%
Air-Conditioning 40%
Lighting 29%

Phase Two: Implement and Measure

The advanced analytics drawn in Phase 1 clearly demonstrated the skewed pattern of energy usage in a day and was also helpful in identifying the energy wastage that could be avoided. For example though there were no occupants after 6 pm the energy usage analytics indicated maximum energy wastage during this time; also in the state of Andhra Pradesh per unit cost of energy consumption increases considerably after 6 pm. It meant a wasteful increase in the operating cost for the client. The reason was most of the devices were not switched off until somebody manually checked the entire property to switch them off. Hence, Orvito automated the entire facility with the necessary automation rules that dictated the switch-on and switch-off times for all the lighting and AC controls in the entire facility. This was quickly done by using SSPs that have an in-built motion sensor to detect presence and enable the occupancy lighting feature. The occupation rules were based on the vacancy times of various rooms.
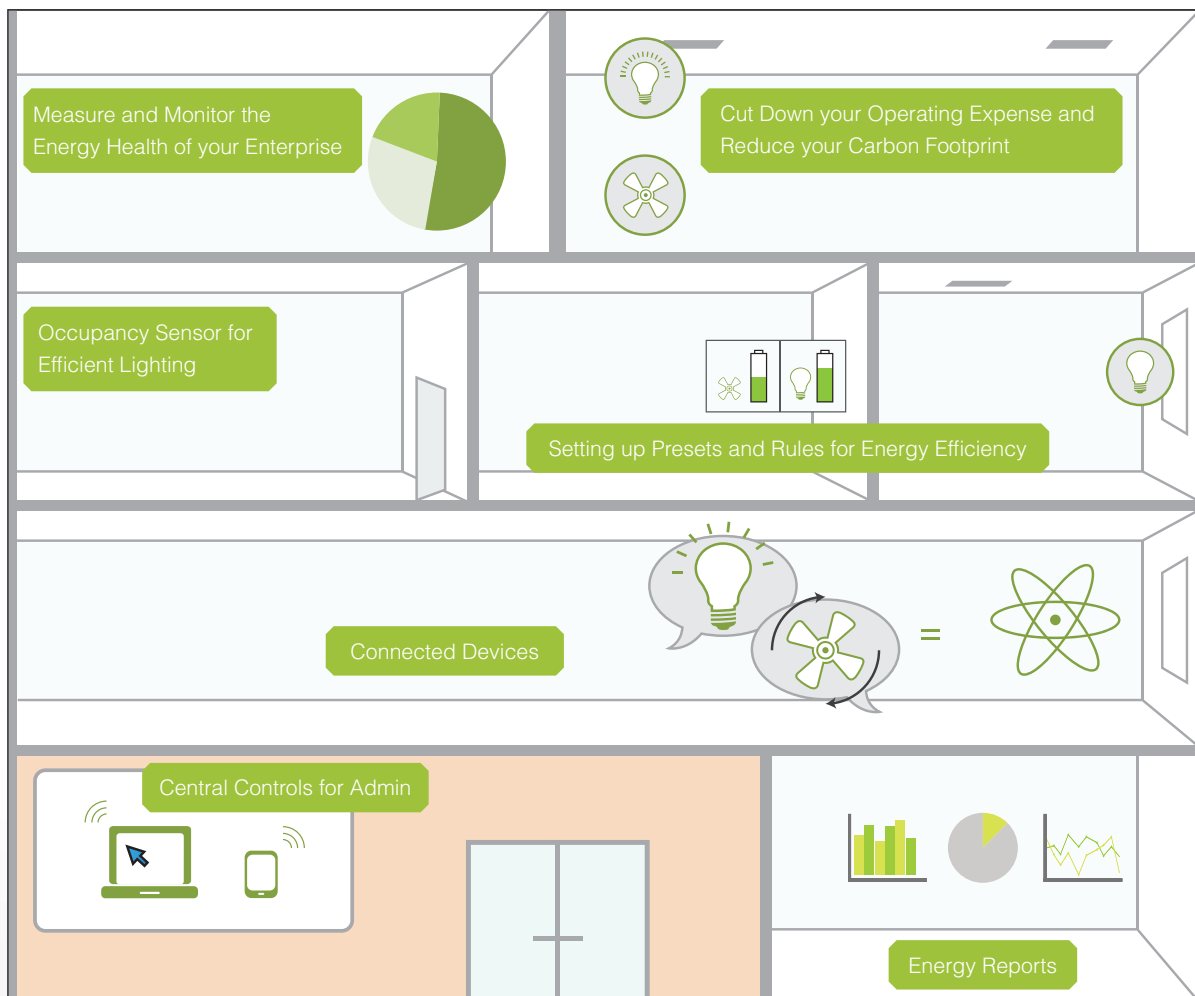
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The Smart Switch Panel™ is an intelligent and networked system, primed for optimized energy consumption. The panel comes with intuitive technology that detects presence, and efficiently regulates lighting and energy consumption of interconnected devices. Highly responsive sensors sense the presence of a person and operate automatically. If it detects a presence in the room, the system kicks in and turns on all the power. Upon detecting no presence for 10 minutes, the system automatically goes into standby mode and shuts off all the power to the particular room.
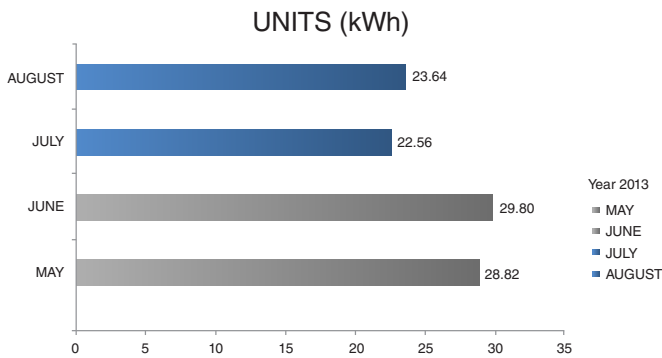
Project Implementation

WebAccess	
Smart Switch Panel	
Smart Hub	
Cloud	

An Energy Efficient Enterprise

Measure and Monitor the Energy Health of your Enterprise

Cut Down your Operating Expense and Reduce your Carbon Footprint

Occupancy Sensor for Efficient Lighting

Setting up Presets and Rules for Energy Efficiency

Connected Devices

Central Controls for Admin

Energy Reports

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Results

UNITS (kWh)

	Value
AUGUST	23.64
JULY	22.56
JUNE	29.80
MAY	28.82

Year 2013
- MAY
- JUNE
- JULY
- AUGUST

As shown in the graph above, two months post installation of Orvito's Smart Switch Panel, a steep drop of 20% was observed in the consumption. The OEI™ solution helped save approximately 6 KWH units/month. This has immensely helped the company in curbing unnecessary operating costs. The panel was also installed and tested on the other two floors, and the results consistently surpassed the expectations of the management. OEI™ solution also helped the client to better understand the power demands and consumption of key equipment and systems in the facility and develop new energy management strategies and practices. The specific data acquired gave the company the confidence it needed to modify power-intense processes, curb its power use, and draft energy conscious corporate policies.

Benefits for Operations Team

- 20% cost reduction in energy bill
- Real-time visibility into energy usage through central dashboard
- Predictive energy bill forecast, highlighting rooms and devices that were contributing most towards the energy bill
- Freeing up facilities personnel from manual monitoring of various floors

Conclusion

Efficient features may be either embedded in new buildings or added to existing buildings through retrofits but both of them can lessen energy. In addition, conservation and efficiency measures can be as simple as adopting Orvito's Enterprise Intelligence™ solution for customer's multiple buildings and the customer can also save a lot of money via the communication integration features of Web Access

Key Features

Ease of installation

Quick and easy replacement of existing switch boards with Orvito's smart switch panel.

With state of the art in-house manufacturing and R&D facility, Orvito products are designed to work together seamlessly without too many cues. With an installation time of less than 20 minutes , our efficient and trained Orvito Tech Squad™ installs the future-ready technology in any space for a convenient and energy efficient living.

Retrofittable

Orvito automation products are retrofittable in existing buildings without interfering in the architecture or the aesthetics. The products can be flushed into existing walls or hidden from view since they operate through the wall power supply. Every product is Wi-Fi® enabled. This allows a non-intrusive installation anywhere in the facility without a worry of additional wiring.

Our client's facility had 38 nodes to control; the installation time was just over few hours, therefore it caused no inconvenience to the client.

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Ease of IT Integration

Orvito Enterprise Intelligence solution uses Wi-Fi® enabled electrical touch switch boards. The IT department of the company had an existing Wi-Fi® network for the office. It was very convenient for them to commission these new devices into the network from their control panel. It was as easy as adding another laptop into the IT network of the office. It also gave them control to stop or start communication for a particular switchboard at any point of time.

The devices communicate by sending small amounts of data to the Cloud. The use of HTTP protocol for communication with the Cloud enabled the IT to integrate this solution easily over their Firewall and Routers.

The Cloud also provides and archives reports on the usage based on time.
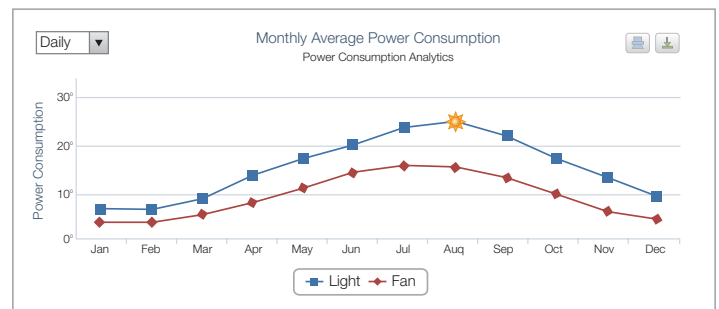
Reliability

The SSP's have been tested and proved to be shock resistant, weather proof and fire resistant. The communication time between the devices is almost zero. With Orvito's cloud storage feature the data is always safe and secure. The cloud connected sensors can detect, warn and inform of any intruders into the client's facility instantly via SMS or email. Our periodic product testing efforts have eliminated any scope of minor errors that can cause failure of the product.

Orvito's solutions employ end-to-end Wi-Fi® technology, thereby making the entire solution more secure and free from any interferences. Following open standards with bank level encryption security along with proprietary periodically changing security keys across the network, Orvito ensures complete control and data security. With international certifications like FCC, IC, and WPC, Orvito assures you of quality products.

Orvito's solutions are scalable to meet various automation requirements from a small dwelling to a larger enterprise facility. Built with a keen eye on scalability, Orvito's solutions do not require network planning and the modular architecture allows more automation products to be added in future.

Advanced Analytics

This feature provides detailed information on energy usage to the user for an informed corrective action.

An example of advanced Energy Analytics

Robust After-Sales Support

Orvito believes in nurturing long term association with partners and customers. With offices and dealer network spread across all the major cities of India, we ensure robust after sales service. To take this further, Orvito offers 24/7 call center support to help monitor the facility and coordinate with emergency services in case of any accidents.

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About Orvito

Orvito designs, manufactures and markets the "Internet of Things" devices. With focus on automation and security surveillance products for Home, Hospitality and Enterprise sectors, Orvito's goal is to enhance security, increase energy efficiency and simplify life. Led by a team of professionals with strong technology background and a keen focus on innovation and quality, we strive to create future-ready automation & security products.

At Orvito, we aim to create a wireless world and provide an unprecedented value and opportunity for our customers, employees and ecosystem partners. Headquartered in Massachusetts, USA, Orvito operates in North America and South Asia. With a strong network of distributors, partners, sales force and after sales service team, Orvito enables smooth installation and service of products.

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