

# Enhancing Building Performance With Energy Optimization Solution

## 利特能® 楼宇能源 优化方案



# One-stop Total Energy Saving Management Service

## 一站式节能管理服务



**Building Management  
System**

楼宇设备  
管理系统



**Energy Optimization  
Solution  
for HVAC System**

能源优化方案  
(中央空调系统)

**PowerBox™**

**PowerBox™ Online  
Energy Management  
System**

线上能源  
管理系统



**Commercial  
Buildings**  
商业大厦

**Hotels**  
酒店

**Hospitals**  
医院

**Institutional  
Buildings**  
公共建筑

**Railway  
Stations**  
铁路站

# Integrated Building Management System (iBMS)

## 综合性屋宇设备管理系统

RGT delivers an integrated and green building management system as well as energy management system to our client's building project.

盈电环保科技有限公司为客户提供综合性绿色屋宇设备管理系统和能源管理系统。

In addition to providing central control, monitoring and management functions with a traditional BMS, its comprehensive, including extensively validated air-conditioning control system EOS and our smart energy management solution PowerBox™.

RGT can achieve energy and operation cost savings via our iBMS, the building owner is able to maintain optimal performance and increase profitability for both new and existing buildings.

除了在传统屋宇设备管理系统中提供的中央控制、监察和管理功能外，其综合性包括已获广泛验证的空调系统控制逻辑的「利特能®能源优化方案(EOS)」及透过分析能源数据找出节能潜力的「利特能®能源管理系统(PowerBox™)」。

盈电环保科技藉著运用 iBMS，可以替客户有效地提升能源运用，降低营运成本，增加工作效率。从长远来看，客户能够掌握屋宇设备系统的状况并保持最佳性能表现，必能获得更大利润。



## iBMS System Configuration

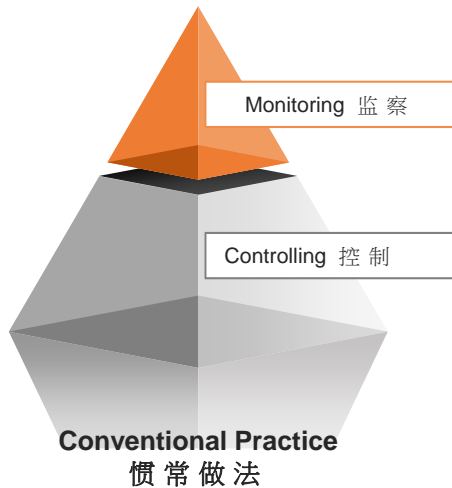
### 系统配置

Configuration 配置	Partnering Brands 合作品牌
Software 软件	EC-Net <sup>AX</sup> ™ Niagara <sup>AX</sup> ® Framework Sedona Framework™
Network Controller 网络控制器	EC-BOS <sup>AX</sup> / JACE
DDC & Field Equipments/Devices 直接数码控制器及现场设备	Distech Controls™
Power Monitoring Devices 电源监察设备	CET Electric



# Conventional Practice Vs. EOS for HVAC System

## 惯常做法 Vs. 能源优化方案 (中央空调系统)



- Basic control and monitor the building's mechanical and electrical equipments such as ventilation, lighting, power systems, fire systems, and security systems.

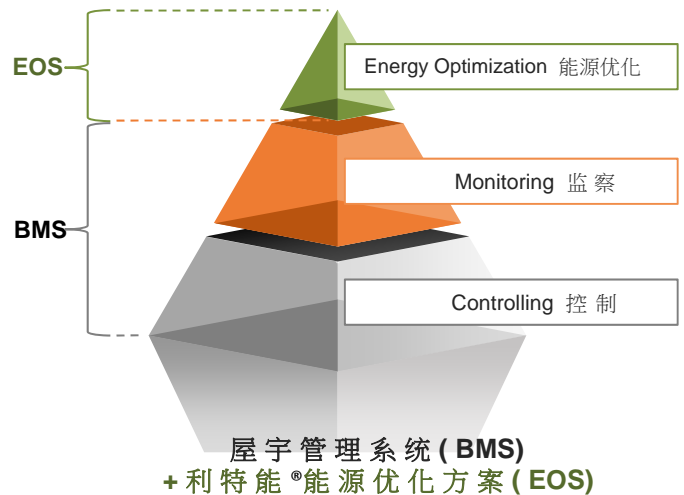
基本控制及监察楼宇机电设备，包括通风、照明、电力、消防、安全系统等。

- Based on pre-determined setting and scheduling.

根据预先设定运行。

- Static responsiveness to dynamic changes in cooling load demand or ambient conditions.

缺乏对现有环境和制冷量需求的反应或灵活性。



- Optimize the energy consumption and operation of HVAC Systems.

优化能源消耗及中央空调系统运作。

- In correlation with ambient conditions, real time system loading and operating parameters.

根据外部环境实时调节系统冷负荷及运行参数。

- Based on dynamic variable set-points for optimal operation.

根据自动调变的设定点来运作。

- Response promptly to the dynamic change of cooling load, e.g. before and after working hours.

迅速地配合冷量负载需求变化，在短时间内作出反应（如：办公时间及非办公时间）。

**Energy Optimization Solution (EOS) is your choice**

利特能®能源优化方案是您的选择

# Energy Optimization Solution (EOS) for HVAC System

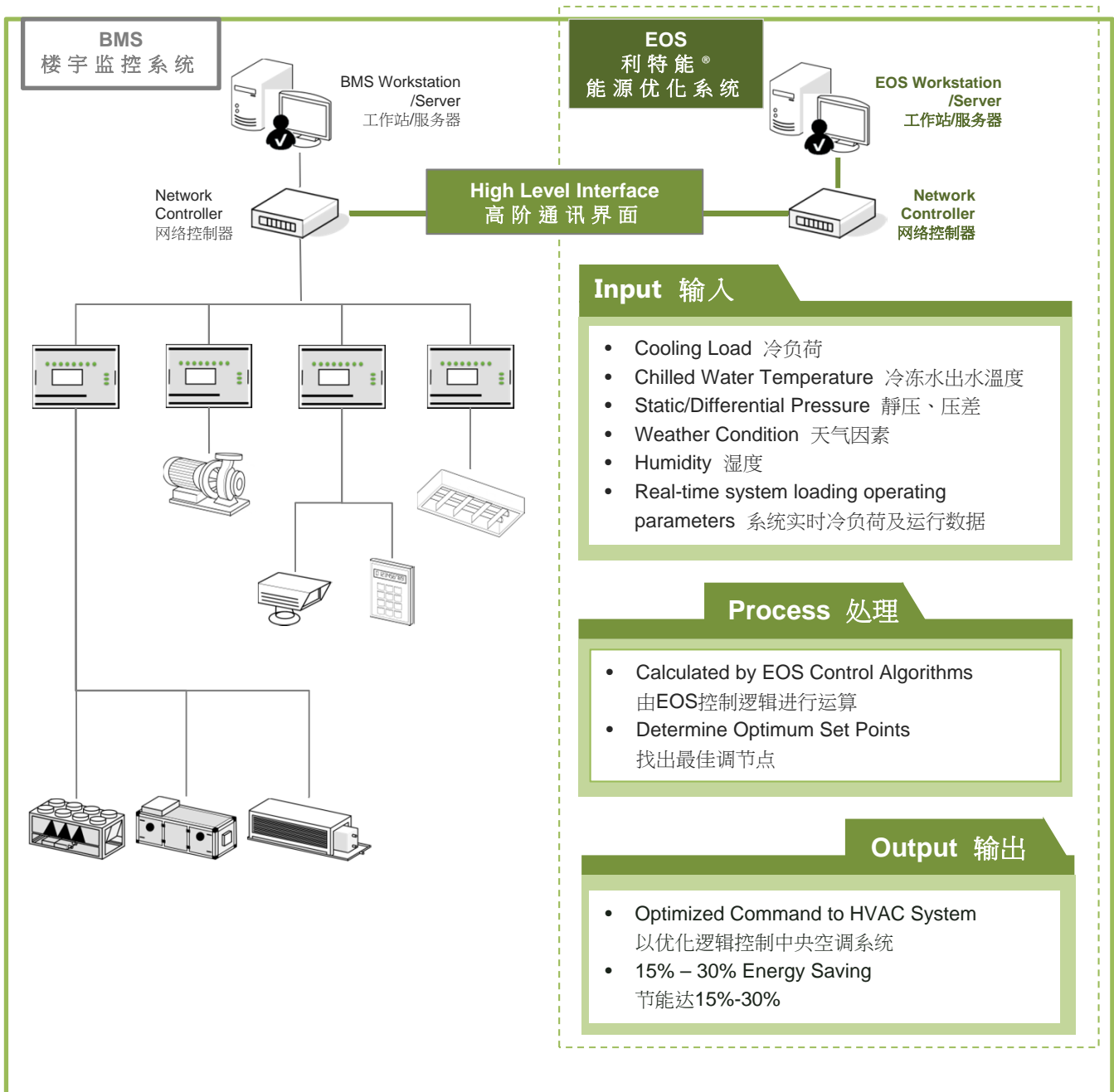
## 利特能® 能源优化方案（中央空调系统）

Helps you maximize the overall energy consumption performance of HVAC system. 助  
您提升中央空调系统能源效益。



EOS - Energy Optimization Solution enables the building owner to enhance and maximize the overall energy consumption performance of HVAC system, according to real time building loads, profiles and external weather conditions.

利特能® 能源优化方案 - 能源优化系统根据楼宇实时冷负荷及室外天气因素优化中央空调系统整体能耗，协助业主提升中央空调系统能源效益。



When implemented,  
Energy Optimization Solution (EOS)  
can deliver energy savings of up to  
当执行利特能®能源优化方案，  
中央空调系统节能效果高达 30%

## Application 系统应用

EOS is not only applicable in new buildings. With the high level interface, it is able to implement the control algorithms to communicate with existing iBMS.

利特能®能源优化方案不仅适用于新楼宇，还可通过高阶界面与现存楼宇的 iBMS 沟通。

### Existing Building 现存楼宇

- EOS can be integrated to the new BMS platform directly.  
利特能®能源优化方案可直接在新建的 BMS 平台执行。

### New Building 新楼宇

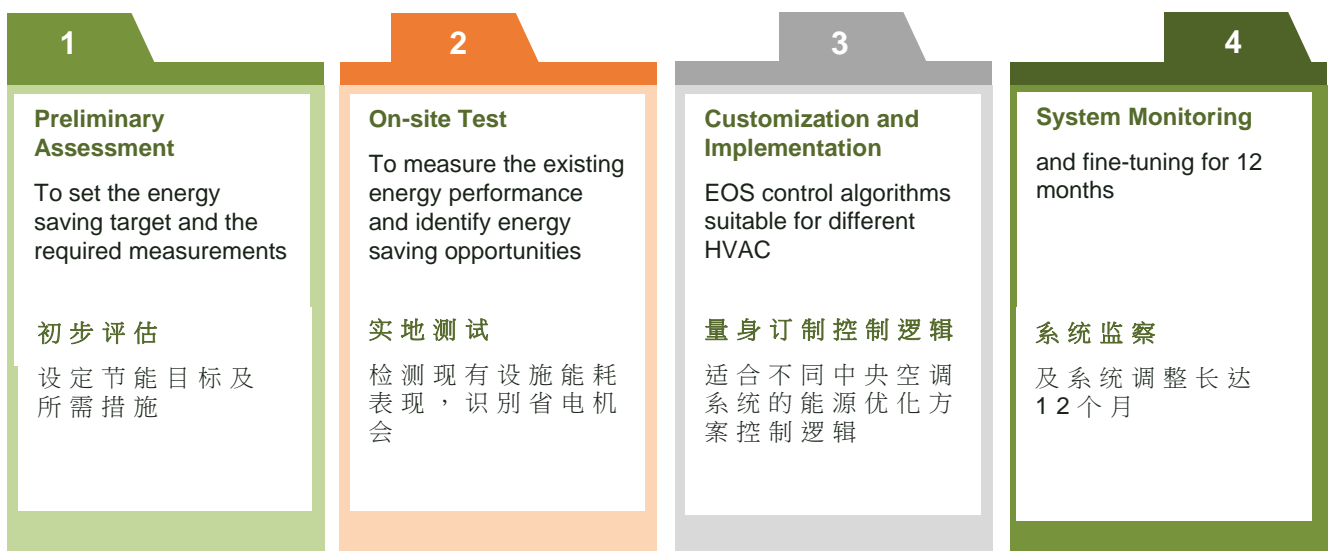
- Communicates with the existing BMS via high level interface e.g Open Protocol (BACnet/Lonworks).  
通过高阶界面，例如：开放式通讯协定 (BACnet/Lonworks)，与现存的 BMS 沟通。
- The operation data of HVAC system will be shared to EOS through high level interface.  
中央空调系统运行数据通过高阶界面与利特能™能源优化方案共享。

### Requirements 系统要求

- Chiller with high-level interface. 冷冻机备有高阶界面。
- High-level interface with BMS by Open Protocol. (e.g., BACnet, Lonworks, Modbus, etc.)  
BMS 需提供一个开放式通讯协定的高阶界面。

## One-Stop Service for Optimizing HVAC System Efficiency

### 一站式优化 HVAC 系统效率服务



# PowerBox™ Online Energy Management System

## 利特能® 能源管理系统

Helping you perform energy management 助您进行能源管理

PowerBox™ is a real-time energy management analysis and monitoring system. It monitors and records the electricity consumption of respective building services installations in your building continuously; allowing your property management staff, technicians and building services engineers to monitor the energy performance of your building effectively, anytime and anywhere.

利特能® 能源管理系统为一个实时能源监察及分析的系统，可持续监察及记录楼宇设备系统的能耗数据。给予您的楼宇管理者、技术人员、楼宇设备工程师随时随地了解您的楼宇能耗情况，以达到有效地执行能源管理。

### Easy Implementation 简便应用

If you have the meters and gateways in place, PowerBox™ works in conjunction with network-enabled hardware to provide real-time information you need for backup and analysis.

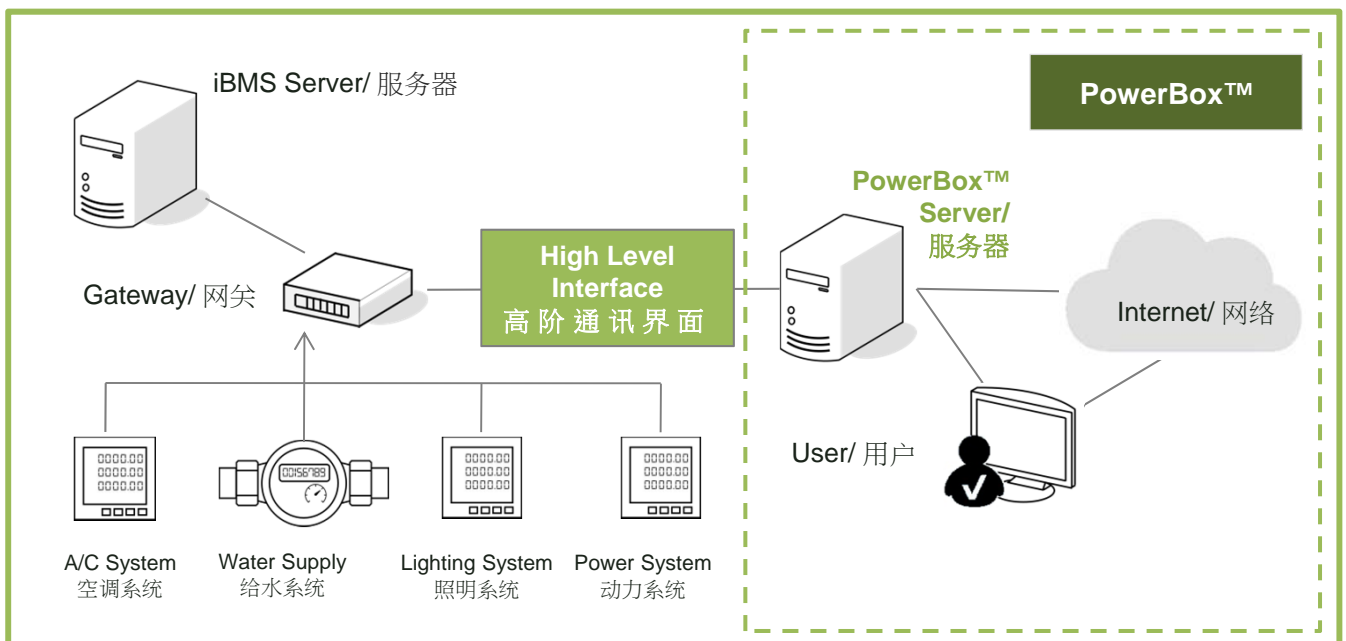
若您已配备有电表及网卡，即可安装能源管理系统。利特能®能源管理系统配合网络硬件提供实时数据以供备份及分析。



1. Login to Powerbox™  
实时能源监察

2. Real time energy monitoring  
实时能源监察

3. Analysis Report  
分析报告

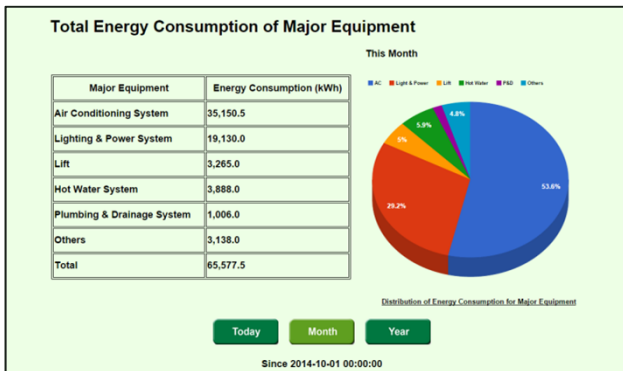


# PowerBox™ Core Functions 主要功能

## Report Generation

用电报告

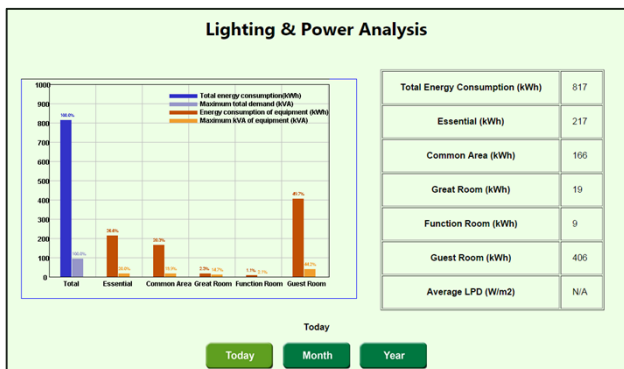
- Identifying energy management opportunities and boosts energy performance.  
识别能源管理机会，提升能耗表现。
- Analysis Report, Energy Distribution, improvement Opportunity Advice and Benchmarking.  
提供分析报告、能源分布、改进项目建议、及评审基准。



## Comparing Energy Saving

节能数据比较

- Comparing the energy saving before and after launching energy management solution.  
提供实施能源管理措施前后之节能数据比较。
- The storing of historical records and day-to-day charting helps fulfill the Building Energy Code requirements.  
过往记录及每日用电图标，满足《建筑物能源效益守则》要求。



## Comprehensive Energy Data Record

详尽的能源数据

The following parameters are recorded :  
以下参数会被记录：

- Power/ 功率 [kW]
- Voltage/ 电压 [V],
- Current/ 电流 [A],
- Power factor/ 功率因素,
- Energy consumption/ 能耗 [kWh],
- Maximum demand/ 最大需求量 [kVA],
- Load profile (daily, monthly and yearly trend)  
负荷分析 (每日、每月及每年趋势)

Potable Water Pump at 39/F			
Meter Location: 1/F LVSB			
	L1	L2	L3
Voltage (V)	228.5	229.7	229.7
Current (A)	0.1	0.0	0.0
Active Power (kW)	0.0	0.0	0.0
Total Active Power (kW)	0.0		
Energy (kWh)	2,969.0		
Total Apparent Power (kVA)	0.0		
Rated Power (kW)	32.0		
Percentage used of Rated Power (%)	0.0		

## Remote Access, Anywhere, Anytime

随时随地远程登陆

The recorded database will be stored in your local workstation or virtual server. PowerBox™ provides a web portal which can be accessed via browsers. In other words, you can access your database in your workstations or mobile devices.

数据可存储于工作站或云端。利特能™提供网络平台，可通过浏览器登陆，用户可通过工作站或流动设备访问数据库。

## Continuous Monitoring and Improvement

持续监察及改进

- Showing the utilization of building services installations.  
显示屋宇设备系统用电情况。
- Benchmarking the building services installations.  
设定屋宇设备系统用电基准。

# The PowerBox™ Web Portal 网络平台

Real time energy monitoring software @ ANYTIME ANYWHERE

随时随地 实时监控

The PowerBox™ web portal can be accessed via common browsers. With an internet connection, you can access your database in your workstations or mobile devices anywhere. The software application can be custom designed to suit the needs of shopping mall, office spaces and even entire building applications.

利特能® 网络平台可通过浏览器登陆，用户可随时随地通过工作站或流动设备访问数据库。本程式可根据商场、办公室及不同楼宇的需求，为客户量身设计应用软件。



## System Configuration

系统配置

Software 软件框架

Power Equipments / Devices 电源设备

## Partnering Brands

合作品牌

EC-Net<sup>AX</sup> EnerVue  
Niagara<sup>AX</sup>® Framework  
iEMS / iEEM

CET Electric

For more information, please contact us via any of the below channels.  
如欲查询更多资讯，欢迎与我们联系。

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