



The Venetian® Macao-Resort Hotel

At Honeywell we recognize that utility costs, sustainability initiatives and budget constraints are all on the rise, creating a pressing need for better, data-driven insight into the performance of buildings.

Honeywell has collaborated with The Venetian Macao on a full-scale intelligent integrated Building Automation Project. The scope of this project also covered several Sands China group premises including The Venetian® Macao, Sands® Macao, The Plaza™ Macao and Sands® Cotai Central.

The project will include a web-based management dashboard that details performance data, an operational dashboard tool with simple analytical and benchmarking features that help users intuitively understand their facilities current utility consumption conditions, and an energy management system that helps to aggregate and manipulate data for logical computation.

The Customer

The Venetian® Macao-Resort-Hotel:

The landmark property of the Cotai Strip™ Resorts, The Venetian® Macao is an impressive integrated resort of Sands China Ltd., itself a subsidiary of Las Vegas Sands Corp. The Venetian is among several properties the global resort developer owns in Macao, and is Asia's first truly integrated resort.

The Vision

The project had a clear vision in mind, to transform the Venetian Macao into being:

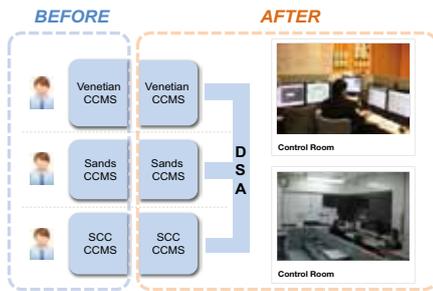
- 1. Smart**
To Achieve Building Automation “Operational Excellence”
- 2. Efficient**
To Integrate Central Control and Monitoring Systems across all Macao properties
- 3. Sustainable**
To Measure and target Sustainability Performance
To Raise awareness by Dashboard Visualization

To achieve the goal of a smart, efficient and sustainable integrated resort, the project was developed through the below framework stages:



The Honeywell Solution

The **foundation** for the project began with supplying our Building Automation solutions with instrumenting smart devices to enable accurate data collection and reporting. Over 160 wireless temperature and humidity sensors were implemented to improve customer comfort.



From here, it was necessary to create an **integrated** Central Control & Monitoring System. Honeywell’s Enterprise Building Integrator (EBI) was provided to streamline the Venetian’s different systems and departments. Our EBI system was then upgraded to the latest (EBI-410) to include an enhanced interface. It was then networked across the Sand China group’s Macao properties to establish a neural network for the resort facilities.

Next, to meet the Sands China’s sustainability goals and create an **intelligent** building, it was essential to first understand how, when, and where their energy is being used. If energy-usage is not measured, it can be difficult to reduce consumption.

Honeywell’s **Management & Operational Dashboards** allow teams from The Venetian and other Sands China properties to intuitively identify utility consumption, and determine issues and corresponding rectification actions. The system will be able to gather real time data and historical energy data from our Honeywell EBI and from the energy management system (Honeywell Energy Manager), displaying information in clear graphic driven terms.



Web Dashboard



The dashboard system is a web-based interface that can be accessed both on-site and remotely, and will display key building data (for example energy data, electricity consumption, heating, cooling, water consumption, green savings, and weather). The dashboards allow users to easily **visualize** their facility’s energy consumption and sustainability initiatives. Through the established “integrated neural network” the dashboard system will be available for the multiple main properties in Macao including:

1. The Venetian Macao
2. The Plaza Macao
3. Sands Macao
4. Sands Cotai Central

Customer Benefits

The Honeywell Building Automation project in Sands China properties resulted in several clear customer benefits:

- Energy savings in the Chiller and Heat Plants
- Increased customer comfort levels through improved wireless sensing monitoring systems
- Reduced time spent by technicians in maintenance works and reporting
- Honeywell dashboard systems enable Teams to have a better understanding of their facility’s performance, consumption patterns and peak cycles throughout the course of the day enabling them to quickly optimize the building’s efficiency



To find out more on how Honeywell can help your facility become safer, more efficient and more secure, contact your Honeywell representative at hbshkmarketing@honeywell.com or visit www.honeywell.com/buildingsolutions

Honeywell Building Solutions

Hong Kong:
21st Floor Honeywell Tower, Olympia Plaza,
255 King’s Road, North Point, Hong Kong
Tel: +852 2331 9133

www.honeywell.com

Macau:

Unit F, 16th Floor, China Civil Plaza
No. 249-263
Alameda Dr. Carlos’s D’Assumpcao, Macao
Tel: +853 2875 7580

©Honeywell Limited 2013