

## **Facility Management in the Information Age**

In the early 1980s, the idea of "intelligent buildings" quietly gained momentum. Spurred by advertising and publicity and driven by personal computer innovations, intelligent buildings were destined to become the buildings of the future. From an HVAC perspective, today the systems that produce intelligent buildings are referred to as Facility Management Systems (FMS).

In a broad sense, such automated methods are designed so that the HVAC environment, lighting, fire, and security systems perform at the highest efficiency possible. Clearly, advances in technology are reshaping our economy with major changes in store for the Facilities Management industry.

### **What does a Facilities Management System do?**

A FMS helps facility managers understand the operation of their facilities, make intelligent decisions, and respond to changing conditions. Facility managers use the power of computer based technologies to monitor and control the day-to-day operation of their facility's HVAC, safety, lighting, and security systems. Microprocessor technologies are harnessed to control such HVAC related issues as temperature, humidity, airflow, and equipment operation with calculations and decision trees that are impossible for mere mortals.

Beyond HVAC, a FMS allows for controlled access into buildings and secured areas within buildings-all by presenting an ID card. In many cases, a body walking into a room will activate lighting and HVAC systems while the person's time in the facility is accumulated for payroll or overtime usage charges. Most FMSs have powerful microprocessors that are integrated into corporate data systems and accessible from the Internet.

### **What are the benefits of a FMS?**

A FMS offers precise remote control, accessible and timely data that would otherwise be costly to obtain, opportunity to share data through a network, agility and speed in decision making, faster problem solving, root cause analysis data, and more comfortable and profitable work environments. At the same time, a FMS meets the changing needs of building occupants and owners. Tenants that occupy buildings complain far less, tenant turnover is reduced, and revenues are increased through overtime use information.

In the deregulated utility environment, one of the greatest cost-savings opportunities for facility managers is the ability to control and optimize whole-facility energy consumption. Utilities are now offering rates that vary by the hour-of-day and day-of-week. To take advantage of such time-varying rates, FMSs will need advanced control strategies such as HVAC load shedding, load shifting, fuel shifting, and communication links directly to the utility's information systems.

## **What is important to know about implementing a FMS?**

As with any other project, successful FMS implementation begins with a plan that outlines goals, objectives, timelines, costs, resources, and risks—all of which are unique to each facility and organization. Successful implementation of a FMS is determined by the strength and commitment of the owner/user, systems integrator, and equipment manufacturer.

The manufacturer's products must meet your needs. Today's systems are similar in many ways, yet it is often the subtle differences in system functionality that enable it to exceed or fall short of expectations. As a result, use an analysis of your current and future needs in concert with a review of the desired product features/benefits to aid you in selecting a manufacturer.

A "user friendly system" requires a "friendly user." As the owner/user, your most important role in successful implementation is definition and communication of expectations. This is easier for performance-based criteria (i.e. system will maintain setpoints within tolerance) than it is for software-based criteria (i.e. produce alarms, reports, graphic representations, graphical navigation, schedules, etc.). Even performance-based criteria become a bit more complex in retrofit situations based on the suitability of the mechanical equipment to produce the expected results. With a clear set of expectations, you are in a position to evaluate the equipment manufacturer and systems integrator and start to begin a successful relationship.

## **What are the challenges of a FMS?**

Technology solutions and longevity are often perceived to be diametrically opposed, while technology solutions and overruns are similarly perceived to be synonymous. The longevity issue is solved through diligence in the selection process coupled with strong ongoing support to utilize the systems to achieve current and future objectives. Data and knowledge systems evolve with your organization and are often strategic corporate assets.

The solutions to the overrun concerns lie in project scope and management. Try to digest the project in small, well-defined milestones of scope, time, and resource. Remember also, that it is difficult to comprehend how you will utilize the many features of the system until you have been fully trained and begin to apply it in your everyday workflow. Many start with a "basic" system implementation and evolve to the higher level of user sophistication over time.

Facilities Management Systems and building intelligence will continue to evolve as technology, innovation, and the economy continue to drive us toward digital networked solutions.