OSIsoft, Inc.
Customer RtPM Solution Case Study

Overview

Country or Region:

Rochester, New York

Industry: Manufacturing

Customer Profile

Based in Rochester, New York, Kodak Park is the largest of Eastman Kodak's Worldwide Manufacturing sites. It has 1300 acres, 150 buildings, and 30 miles of roads. The park operates its own fire department, railroad, water and wastewater treatment plants, and two power plants.

Business Situation

Kodak Park has significant energy management requirements. It was plagued with many building automation and distributed control systems. Some systems were in silos - they were not connected to any other buildings. It needed to find a way to get real-time data on the web in a way that was consistent with its corporate information requirements.

Solution

Kodak Park selected RtPortal iViews, the PI System, ProcessBook and DataLink to view utilities data from the different legacy systems in real time on the web.

Benefits

- Significant ROI on improved demand side management and optimization of generation assets
- Identified opportunities in manufacturing to implement an energy conservation mode between product runs
- Created an Energy Management Web site with real-time data that leveraged an existing SAP portal that is used for HR data

Using RtPortal iViews to Reduce Energy Management Costs and Meet Conservation Goals

"We are identifying savings opportunities on a regular basis. The OSIsoft products have exceeded our expectations. They are viewed as critical tools to help us assess and meet our very aggressive site energy reduction goals that amount to several million dollars annually."

--James Breeze, Engineer and Project Leader

The Kodak Park, located in Rochester, NY, referred to as a "city within a city," is over 100 years old. The site has 1300 acres, two utility power plants, two company-owned water and waste water treatment plants, 150 buildings, and 11,000 employees. The Kodak Park utility power plants have enormous generation output and demand requirements including 2,000,000 pounds per hour steam load and a 125 MW electric load. The site also has 600 electric distribution meters, 600 additional non-electric distribution meters, and many generation site meters. The utilities systems were operated and monitored by a group of disparate building automation systems and distributed control systems.

Kodak Park, Rochester, New York

With such a vast energy and management system, Kodak shares many of the same concerns as regional utility companies - conservation, optimization of resources, and consolidation of data from various legacy systems. Any new technology solution added to this mix had to be compatible with our well-defined information architecture requirements. While the business case was conservation, the new portal site had to meet the following goals:

To reduce utility costs through demand side management, as well as improve optimization of its generating assets; and

To consolidate the utilities data from many different legacy systems into a common historian and make it accessible to all employees through a web browser in real-time

Finding a Synergistic Real-time Solution

Since Kodak Energy Management supports many different kinds of users, the portal needed to support a combination of roles and pages for process data. After evaluating four software vendors, the site determined that OSIsoft's PI System, RtPM Business Package for SAP Enterprise Portal (RtPortal iViews), and the OSIsoft Smart Clients met its requirements. Kodak liked RtPortal iViews because users could link to and correlate PI and production data and display it in the corporate-wide SAP NetWeaver Enterprise portal. Users could also access performance and operational data, such as mass balance and energy information from disparate systems for real-time decision support and analysis.

The PI System and the RtPortal iViews were implemented in about seven months, although an additional four months was required to solve site problems. For example, systems located in isolated silos required electronic meters to communicate with the corporate network.

Creating an Intuitive Portal Site

Today, all employees can access the Energy Information System (EIS) through the Kodak Workforce Portal site (see Figure 1). James Breeze, Engineer and Project Leader observed, "We wanted a Web site that was intuitive and user-friendly. We wanted everyone, from senior management to the plant floor workers, to be able to look at the data and understand the utility usage for a specific building, site, or department."

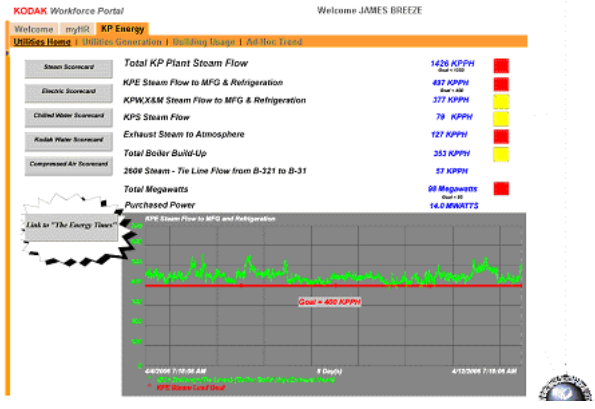

Figure 1. The home page for the Kodak Workforce Portal opens to the Utilities Tab

The Kodak Workforce Portal Home Page has links to myHR powered by SAP, where users log hours for paychecks, vacations, and time off, and to KP Energy, powered by PI. The KP Energy Utilities Home page contains real-time mass balance information about how the steam is used. Users can also open MS Excel scorecards that display energy conservation progress in for each of Kodak's Energy departments.

Trending Utilities Generation

The Utilities Generation site tracks generation trends, such as waste water treatment, chilled water, steam, electric, and refrigeration (see Figure 1). Load profile trends run actual performance against conservation targets. These trends are discussed in a daily morning meeting. Since managers have a limited time to review and understand the data from their areas of responsibility, the trends allow them to draw conclusions within a few seconds of observing the portal web page.

Tracking Building Usage

The Building Usage tab tracks utility usage per building. Utility managers use this information for both daily planning as well as long-term strategic development. Managers can see how well the plant is being loaded to meet the demand.

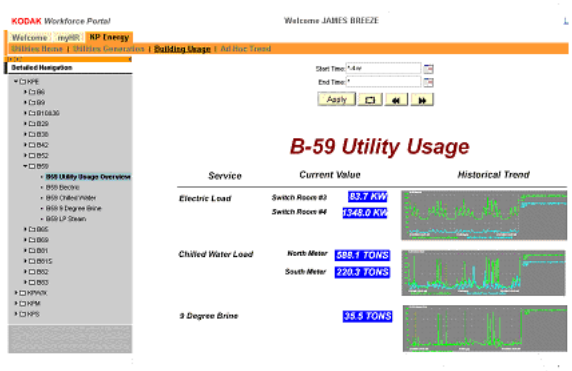

Figure 2.
Kodak Energy Usage Overview for Building 59

A tree structure, located in the left frame, helps users to easily locate relevant data by building number and utility service (see Figure 2). When a user clicks on a building number, a quick snapshot of peaks and loads for that building appears. Users change the time range to make assessments to view loads from the last day, week, month, or even to compare loads to the previous year.

They can then seek improvement opportunities and

better manage utility usage. Noted James Breeze, "I like to compare this view to the speedometer in your car. You can drive without one, but you will do a much better job of managing your speed with one."

More conservation opportunities emerge as the real-time state of usage conditions has become visible. By observing real-time trends of electrical usage, the event teams have been able to identify high-energy using systems and target them for improvement. For example, it is now possible to start and stop many fans, pumps, and motors, and quickly determine the overall impact that these complex systems have on the total energy usage within the building. One manager discovered that HVAC system reheat control valves stayed open after they were shut off, which resulted in additional steam and chilled water loads in several areas.

Since the site's inception, the Utilities management and technical teams are constantly evaluating how building usage compares to site energy reduction goals and distribution of the services. Process engineers are gaining a better understanding of how and when processes use utility services - an eye opening experience for many. The real-time data is helping the engineers to optimize processes and minimize utility usage during product changes and down times. Now, the utilities technical team gets frequent requests to display additional data to correlate process data with utilities data.

Meeting Energy Reduction Goals

According to James Breeze, "We are identifying savings opportunities on a regular basis. The OSIsoft products have exceeded our expectations. They are viewed as critical tools to help us assess and meet our very aggressive site energy reduction goals that amount to several million dollars annually."

In the future, Kodak Energy Management plans to continue integrating other systems and other sites to RtPortal. Kodak Energy Management will continue to use PI data to support all conservation efforts. Finally, it plans to invest and expand its analytical and graphical capabilities. Added Breeze, "I know we are just starting to see the potential of the OSIsoft system. I am not sure exactly where the analytical capabilities will lead us, but I am sure that our creative team will find new and better ways to use this system as we move forward."