



Manufacturer visualizes electricity usage and boosts energy savings with Visio Pro for Office 365

"By making energy usage visible with Microsoft Visio, we can now plan ahead to save energy and evaluate cost-reduction options easily."

—Masashi Kawashima, Manager,
Management Planning Division, SAXA, Inc.

To better reserve energy in a country with limited natural resources, Japanese manufacturer SAXA used Microsoft Visio Pro for Office 365 and Microsoft cloud solutions for real-time monitoring of electricity usage. With contextual energy visualization, SAXA and its customers are achieving big gains in energy savings and more accurate energy planning.



SAXA, Inc.

www.saxa.co.jp

1,300 employees

Japan

Manufacturing

Company profile

Headquartered in Japan, SAXA is a leading manufacturer of information communication equipment. Its 13 member companies offer superior hardware and services for office use, including business phones and networking, video camera and security systems.

Partner profile

Meister Corporation
www.mster.co.jp

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—Uichiro Nozawa,
Executive Director and Division
Director, Meister Corporation

Business needs

Operating in a country with limited natural resources, energy conservation and CO₂ reduction are essential to Japanese businesses. Japan’s 2011 earthquake further increased the need for energy-saving functions and remains a top priority today.

As a leading Japanese manufacturer of information communication equipment and services for office use, SAXA saw an opportunity to develop an environment visualization system leveraging the power of the Internet of Things (IoT)—with today’s advancements in computing platforms, sensors, connectivity and data insights. SAXA hoped to improve its own energy management and create new customer value by offering the solution as a service to its business customers.

Solution

Working with Microsoft partner Meister Corporation, SAXA combined its own wireless LAN-ready sensors, that track temperature, humidity and electricity, with Microsoft Visio Pro for Office 365 and Microsoft cloud solutions to create the SAXA M2M Environment Visualization Solution.

“Energy waste is most often due to human error, such as forgetting to turn off the lights or unknowingly using excessive air conditioning,” explains Uichiro Nozawa, Executive Director and Division Director at Meister Corporation. “The principal purpose of the SAXA M2M Environment Visualization Solution is to notify people on a daily basis when energy related to their PC, business phone, or other common item is being wasted.”

Cloud scalability across the organization

At the core of the solution is the cloud. With its member companies and development and manufacturing sites dispersed throughout Japan, SAXA believed an organizational rollout would need the scale of cloud computing.

SAXA and Meister selected Microsoft Azure for its cloud infrastructure, finding it easier to implement than other cloud services and allows them to deploy in common environments using Microsoft Visual Studio.

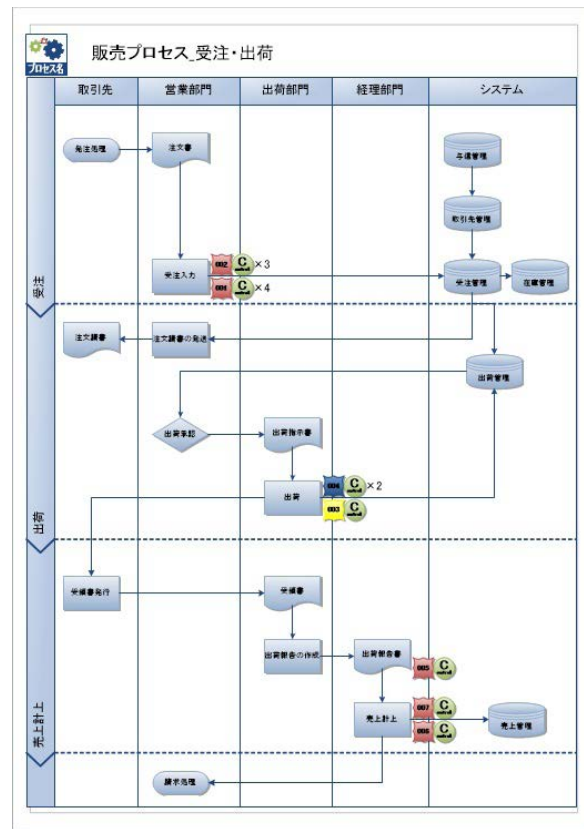
In real time, more than 50 SAXA wireless LAN sensors (WL100 and WL110) collect office temperature, humidity, power consumption, and other vital information. That data is then transmitted via RSS feeds to Microsoft Azure and accumulated in an Azure SQL database, processing more than 2,500 database calls each day.

Contextual energy visualization

The power of the solution lands in the visualization of the data. The data collected from sensors is displayed in real time on a facility floor plan created in Microsoft Visio Pro for Office 365, using Visio’s rich data graphics.

“We realized that data should be shown in floor plan format to let people know how, when and where energy is being wasted within a building or equipment layout,” Nozawa san explains. “These data-enhanced plans drawn in Visio raise awareness of energy usage that general reports of power consumption cannot match.”

SAXA customers or employees can then monitor energy levels using a Visio-based IoT dashboard in a browser across devices.



"If you want to change the lighting to LEDs, you can see the impact on electricity by quickly swapping Visio shapes which has relevant parameters in Shape Data."

—Masashi Kawashima,
Manager, Management Planning
Division, SAXA, Inc.

Benefits

Big gains in energy savings

With the M2M Environment Visualization Solution, SAXA and its customers now have easy access to real-time monitoring of temperature, humidity, and power consumption in a visually-compelling way.

As a result, SAXA is able to save energy in both its manufacturing facilities and office buildings. For example, by displaying electricity visually, the solution can immediately indicate when and where lighting has been left on during a lunch break. SAXA customers have also been able to save energy and reduce costs—adjusting temperatures or lighting as needed.

More accurate planning

By making energy usage visible, SAXA and its customers can also see the trend of their energy usage and more easily create a plan to reduce their individual consumption.

"We can now plan ahead to save energy and evaluate cost-reduction options easily," says Masashi Kawashima, Manager, Management Planning Division at SAXA. "For example, if you want to change the lighting to LEDs, you can see the impact on electricity by quickly swapping Visio shapes which has relevant parameters in Shape Data. By measuring current power consumption within each building and comparing with newer energy-efficient strategies and equipment, you can develop more accurate capital expenditure plans across your facilities."

And at a glance, they can understand the impact visualized by Visio.

"With Visio, you can revise plans simply by moving equipment stencils with the drag-and-drop feature. It's a much simpler experience than CAD-based tools."

—Uichiro Nozawa,
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Director, Meister Corporation

"Plans drawn in Visio show you the physical relationship, environmental background, and spatial context," Nozawa san explains. "They allow you to model energy-saving options with the consideration of the building's characteristics. For example, if you confirm temperatures and humidity on a flat plane with the consideration of window dimensions, you may see that heat comes from the large amount of external light. You will realize you only need to buy blinds rather than install a new air conditioner."

Visio is also helpful to rearrange the location of servers and equipment that affect the environment. "You can revise plans simply by moving equipment stencils with the drag-and-drop feature," says Nozawa san. "It's a much simpler experience than CAD-based tools."

As SAXA moves forward, it plans to offer electricity forecasting services, using the Microsoft SQL Server Analysis Service to analyze additional information like historic, meteorological, and environmental data, and use Visio to visualize the rich data.

For more information

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Microsoft Office 365

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Software and services

Microsoft Visio Pro for Office 365
Microsoft Azure
Microsoft Azure SQL Database