Case Study

Organization
Salisbury University

Location
United States

Industry
Facilities/Higher Education

Campus Sustainability

Salisbury University (SU) is a public university of approximately 8,000 students located on Maryland's eastern shore. SU is committed to building a sustainable and energy efficient campus, and since 2007, eight of its buildings have been US Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) certified. SU wanted to continue to optimally maintain these facilities, recording current conditions as well as visualizing and reporting on how to improve building performance.

> "The critical component is our ability to compare the building's condition as it ages with its design specifications to make sure we're operating efficiently."
>
> **Dr. Michael Scott**
> Salisbury University

What did they do?

While SU staff members had access to a large quantity of CAD data from their building automation system, there wasn't an ideal way to view and interact with present and historical information. SU contracted with Esri partner Spatial Systems Associates, Inc., and implemented the ArcGIS® platform-based SpatialMMS. Using the university's new Perdue School of Business building, SU staff imported CAD data, attributed it with important annotation information found on the drawings, and made the information available in real time for viewing.

Do I need this?

SU can now interactively navigate Perdue's many floors and attribute information as well as visualize current conditions within the facility. Understanding and controlling building performance are greatly enhanced by visualization, so SU staff can make operational changes to reduce energy consumption and costs.

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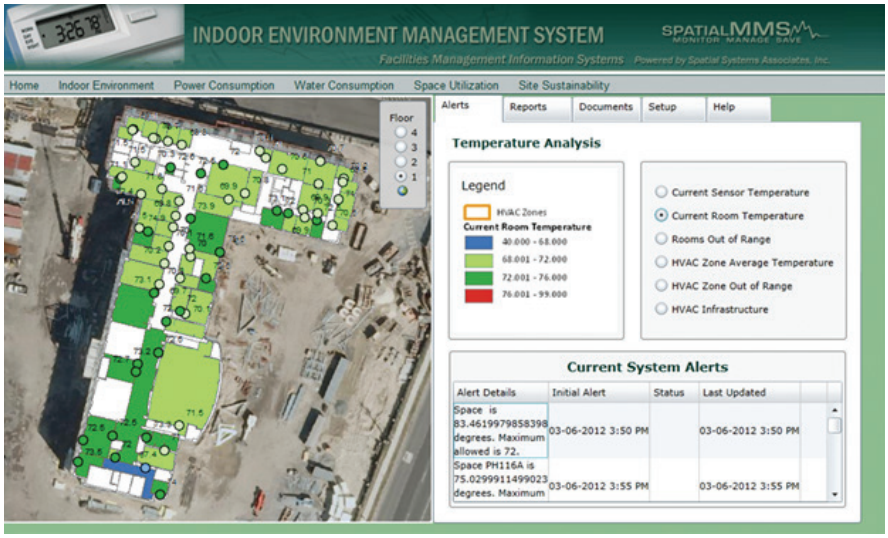
SpatialMMS is a web application based on ArcGIS for Server. All the back-end facility data, as well as live data feeds is accessible via the Internet through a standard web browser. Many different map services are consumed and made available from different sources, as well as tie into SU's live data feeds from its Niagara Building Automation System (BAS) database.

SU staff can now interactively navigate floors and attribute information for the Perdue building while also visualizing current conditions such as indoor temperatures, humidity and CO2 levels by room, and power consumption within the facility. The data is symbolized using color ranges identifying SU's acceptable levels of operation.

The live data being consumed from the Niagara BAS by SpatialMMS is updated in the web map every five minutes. In the event that conditions fall outside the university's specified ranges, alerts are autogenerated and sent via e-mail to building operators who can respond to the issue.

The Perdue building is configured to allow submetering of the electrical system so components of energy draw—HVAC, lighting, process power, elevators—can be identified. SpatialMMS consumes the live data being recorded by the Niagara BAS and displays how much energy is being consumed by what system at a given time, or over a period of time.

When necessary, members of the SU facilities management group can open SpatialMMS and see exactly what percentage each energy component is drawing, when peak levels are occurring, and the carbon footprint based on current operating conditions. By visualizing the information rather than viewing it in tables, SU can now make operational changes to reduce energy consumption and, in turn, energy costs.



SpatialMMS allows Salisbury University to monitor its energy usage throughout its state-of-the-art Perdue building.

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