

The Siemens logo is displayed in a white rectangular box in the top left corner of the page. The background of the entire page is a photograph of the San Bernardino County Government Center, a large building with a prominent arched glass entrance, surrounded by several tall palm trees.

SIEMENS

County of San Bernardino, CA

Building automation and new technologies from Siemens help America's largest county serve its residents more efficiently and sustainably.

Covering more than 20,000 square miles, California's County of San Bernardino is the nation's largest. For the County's Facilities Management staff, responding to a building service call meant spending several hours, and using many gallons of fuel, driving to each location. But, with the Siemens Building Automation System (BAS) and the latest digital technologies, more work can be done remotely and on modern handheld devices, such as iPads. Taking a proactive approach, the County has empowered its staff to better serve the citizens of the County of San Bernardino, save tax dollars, and make the County more sustainable and energy efficient.

Client Objectives

Managing a portfolio of buildings across this large and vast County presented some unique challenges. A mechanical failure in one building meant a 90-minute one-way drive to that site to simply diagnose the issue. County employees at a building with a malfunctioning HVAC system had to work in uncomfortable conditions longer, leading to reduced productivity. Similarly, equipment operating inefficiently at a remote location took longer to fix, negatively impacting the County's overall energy efficiency.

Due to slow response times, the County's budget and operations suffered. The time needed to drive from site to site meant more overtime hours and greater fuel costs. More time behind the wheel meant less time for field technicians to complete the preventive maintenance that keeps buildings in the most efficient condition.

The County of San Bernardino's Facilities Management and Project Management Divisions wanted to work more efficiently. Understanding that the task ahead of them would require a great deal of IT support, they engaged Joe Sutcliffe, the County's Information Services Department (ISD) Division Chief, to help create a long-term technology upgrade and sustainability road map. These three County departments aligned to form a partnership that envisioned a distributed control system that could tie together disparate systems, such as building automation, fire and life safety, lighting, power, and water, on a single network.

Such a system would unleash productivity through remote monitoring, 24/7 email alerts, and system adjustments and fixes made over the network instead of on-site. "In the end, we wanted to make sure we were providing a greater return on the dollar for taxpayers," notes Mr. Sutcliffe. "We wanted to provide greater value for our energy, payroll, and travel spend."

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“This new system gives us room to grow. It gives us the opportunity to be on the cutting edge.”

*Joe Sutcliffe
Information Services Dept.
Division Chief
County of San Bernardino*



Siemens Solution

The County of San Bernardino turned to the Building Technologies division of Siemens to achieve its goals for greater efficiency and productivity. To plan the distributed control system, Siemens engineers worked closely with both the County's Facilities Management and ISD. "As building systems become more sophisticated, it is crucial to have input from both the Facilities and IT teams," notes Akshay Grover, Sr. Sales Executive at the Siemens Los Angeles Branch, who is responsible for managing work with the County of San Bernardino. "This project was a perfect example of everyone coming together to meet a shared vision."

Two components drove planning. First, end-of-life Siemens controls in County buildings were upgraded to the latest Siemens technology and standardized to the open, industry standard BACnet communication protocol. Second, the Siemens Building Automation System was connected to the County's existing Wide Area Network, which kept overall costs to a minimum.

Implementation was completed in a phased approach. It included the networking of all buildings and migration of controls from systems of different ages to the latest Siemens digital controls. In addition, retro-commissioning at twenty-one County buildings was completed to further improve performance and energy savings.

Standardized controls simplified the user experience for field staff and enabled BACnet integration of building automation, lighting, power, and water treatment equipment systems from different manufacturers. Siemens Building Automation System, with its web-based capability, offered secure, off-site access, and the County's staff could even address issues remotely.

Additionally, County facility staff have been equipped with Siemens Facility Prime™ iPad Solution. Using iPads, they can complete both remote diagnostics and correction. The tool also helps while checking the status of physical equipment away from building controls, once a two-person job.

Client Results

Today, the County of San Bernardino has turned its field operations into a responsive, proactive, and efficient work force and has generated significant savings for taxpayers. In the first two years alone, savings did include:

- Over **\$150,000** in energy and natural gas savings through more efficient operations
- **\$53,460** in lowered payroll costs by reducing overtime hours by 1,320
- **\$18,480** in savings through a reduction in fuel consumption of 2,933 gallons
- **Total savings of \$222,120** were realized, which dramatically improved customer service

Driving less, the County is also minimizing its impact on the environment. Over two years, field technicians traveled **26,400 fewer miles**, resulting in **significant reductions in greenhouse gas emissions**.

With all of its facility staff trained by Siemens Education Services instructors, and leveraging the latest technology, the County is more aggressive in managing its buildings and resources. It plans to integrate lighting, elevators, fire and life safety systems, and even water treatment controllers with the distributed control system. The County is now able to better manage its energy portfolio and capitalize on utility incentives through Demand Response and other efficiency programs. "This new system gives us room to grow," says Mr. Sutcliffe. "It gives us the opportunity to be on the cutting edge." A National Association of Counties (NACo) achievement award bestowed upon the County is testimony to this successful partnership.

Siemens Industry, Inc.
Building Technologies Division
1000 Deerfield Parkway
Buffalo Grove, IL 60089
Tel: (847) 215-1000

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10/15, Part# 153-SBT-072

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