



case study | SAP America, Inc., Newtown Square, PA
Quantum® total light management system with Hyperion™ solar-adaptive shading

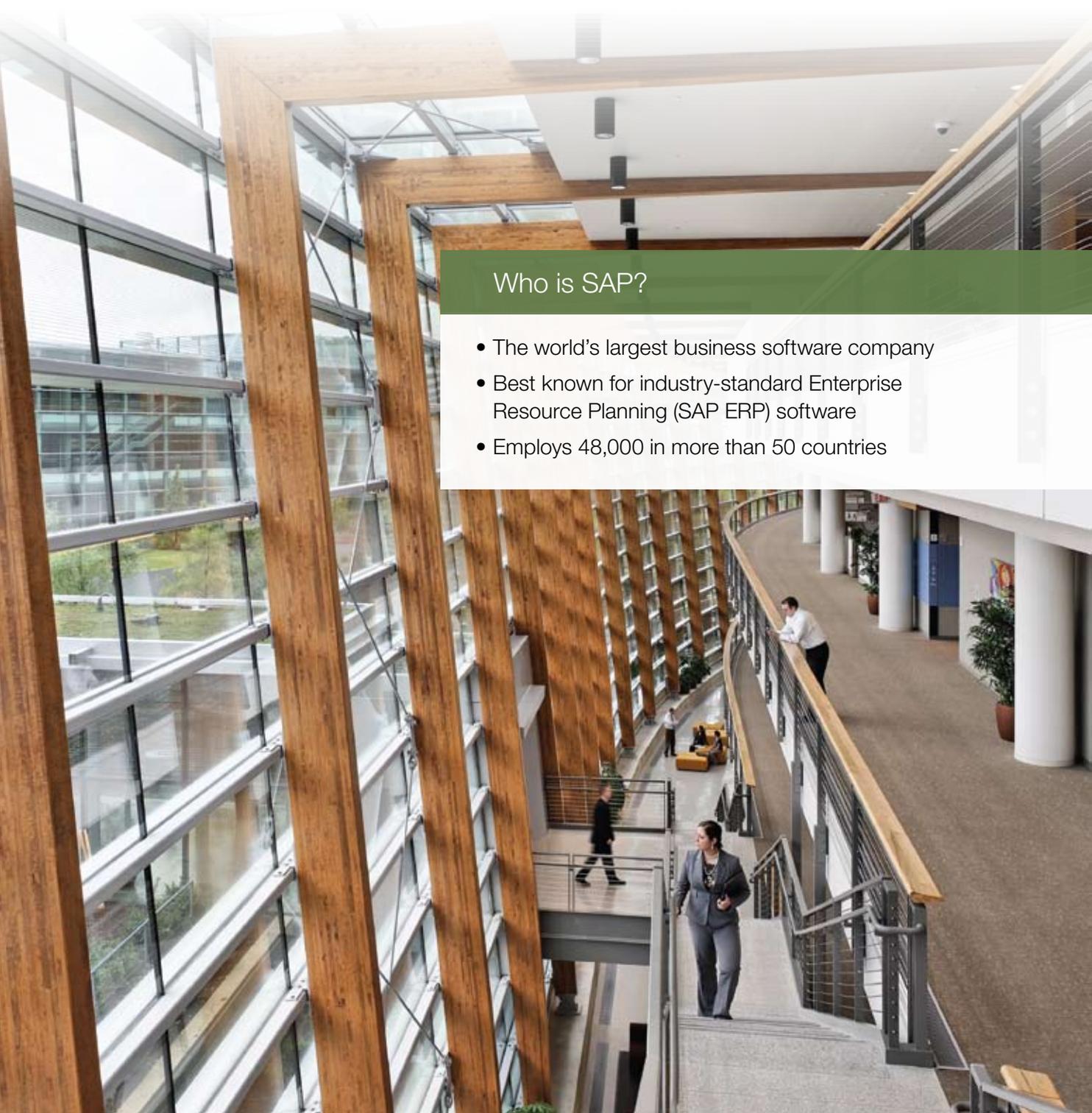


“SAP is all about providing our staff with the best possible working conditions. We needed to control the interior light with a system that would not block views, be distracting, or affect productivity. That’s what Lutron delivered.”

—Brian Barrett, Project Manager for SAP

Who is SAP?

- The world’s largest business software company
- Best known for industry-standard Enterprise Resource Planning (SAP ERP) software
- Employs 48,000 in more than 50 countries





“You can take the complexity of a skyscraper and the commitment to be sustainable and translate that into any space.”

—Guy Geier, Senior Partner, FXFOWLE

International software giant SAP recently completed an expansion of its North American campus, constructing an all-glass, four-story, 218,000-sq. ft. structure designed to the LEED Platinum standard. The new building is adjacent to SAP's existing LEED-certified facility on a 110-acre campus in Newtown Square, Pa., approximately 15 miles west of Philadelphia. The structure houses nearly 1,000 employees and was designed by FXFOWLE, an architectural firm known for innovation in sustainable building.

Among other design requirements, the new building supports two of the company's goals: leadership in sustainability and recruiting and retaining top talent.

Lutron lighting control was a key component in designing the building to meet those goals.

The Lutron Quantum® total light management system with Hyperion™ solar-adaptive shading controls lights and Lutron automated shades throughout the facility. By dramatically reducing lighting energy usage, the system will help SAP earn LEED credits for the building. And by delivering an interior environment that employees find comfortable and inviting, the light control system acts as a tool for creating a productive and attractive workplace.

The Challenge

Total Light Management

The four-story glass structure is a natural fit with the surrounding environment, and provides abundant daylight and unobstructed views for its occupants. However, with that design came the possibility for a number of environment challenges, including solar heat gain and glare.

The Solution

Quantum automatically controls electric light and daylight unobtrusively throughout the day using daylight sensors, occupancy/vacancy sensors, and ultra-quiet automated Sivoia® QS roller shades. Within the Quantum system, Hyperion solar-adaptive shading automatically adjusts shades based on the sun's position. Quantum also integrates directly with the building management system for centralized control of lighting and shades.

Create a Superior Work Environment

"SAP is all about providing our staff with the best possible working conditions," explains Brian Barrett, Project Manager for SAP, "and since we're a computer-oriented environment, that includes providing the best possible light levels. We needed to control the interior light with a system that would not block views, be distracting, or affect productivity."

The floor-to-ceiling glass exterior and open floor plan take maximum advantage of daylight to light the open work areas (known as "neighborhoods") and create a bright, inviting workplace. As the sun moves across the sky, the electric light levels automatically adjust, creating a more comfortable environment.

"When the shades go down, the lights go up, and vice versa. The shades are incredibly quiet. There is no audible cue that they're moving up or down, and that's an extremely attractive feature," says Barrett.

Save Energy

For SAP to achieve its goal of sustainability, all of the systems in the new building had to be energy efficient. For lighting controls, this would require the system to seamlessly adjust throughout the work day.

"Energy efficiency and cost-savings were the primary reasons we chose the Quantum system for SAP," says Kay + Sons President Barry Kay. Quantum constantly monitors and automatically adjusts the lights and shades—using daylight when available by dimming the electric lights, and using shading to reduce energy demand.

Combining Quantum with Lutron shades and Hyperion can reduce lighting energy usage by more than 60%, and air conditioning usage by more than 10% in a commercial space. "SAP has seen a dramatic reduction in energy use and as a result, huge cost savings," says Barrett.

Lutron Total Light Management

Total light control. Increased productivity. Energy savings. The building not only stands as a symbolic structure for SAP and its sustainability initiatives, but as a standard for others to follow.

“You can take the complexity of a skyscraper and the commitment to be sustainable, and translate that into any space,” says Guy Geier, Senior Partner with FXFOWLE. “Studies support the correlation between daylight in the workplace and productivity. All the pieces together create an environment where people are happy, comfortable and productive.”

SAP: Leadership in Sustainability

Sustainable solutions don't end with total light control. In addition to triple-glazed curtain walls, SAP houses a number of features that contribute to energy savings and reduced use of resources. Green rooftops are populated with local vegetation to aid in rainwater absorption (below). Rainwater collected from the green roof and other areas is stored in a 50,000-gallon cistern, and used for landscape irrigation and toilet flushing. Geothermal wells help to heat and cool the building. And a hybrid air conditioning system produces ice during the overnight hours, and uses chilled water from the melting ice for cooling.



Project Credits:

Client:

SAP America, Inc.
Newtown Square, PA

Architect of Record:

FXFOWLE Architects, LLP
New York, NY

Electrical Engineer:

WSP Flack + Kurtz
New York, NY

Lighting Designer:

S&S Lighting Design
Summit, NJ

Equipment Provider:

Lutron Electronics Co., Inc.
Coopersburg, PA
www.lutron.com

Energy Consultant

and Systems Integrator:
Kay + Sons
Norristown, PA

Electrical Contractor:

Hatzel & Buehler
Philadelphia, PA

General Contractor:

Gilbane Inc.
Philadelphia, PA

www.lutron.com/quantum

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