

## Case Study

# Penn State Health

## Transforming operations with people, processes and technology



### The project

For more than 50 years, Penn State Health Milton S. Hershey Medical Center has relied on Johnson Controls to maximize hospital infrastructure performance through an operations and maintenance (O&M) contract, enabling exceptional patient experiences.

### The challenge

Penn State Health's flagship 610-bed medical center, the Milton S. Hershey Medical Center, is central Pennsylvania's only locally based academic medical center. A Magnet-designated hospital since 2007, it is also the state's only Level 1 trauma center for both children and adults.

The massive site is composed of 80 buildings covering 5.2 million square feet. As a teaching hospital, Hershey Medical Center includes a full array of health care and higher education spaces,

including classrooms and labs, a vivarium, an auditorium, conference rooms and offices.

Year after year, the hospital has sought to demonstrate sound stewardship, seeking a partner who can deliver innovative solutions that maximize operating efficiency, reduce energy costs, enhance building system reliability and deliver guaranteed outcomes. Given the scope of operations, Penn State Health needs a partner who's fully embedded in the organization.

### The solution

The hospital has relied on Johnson Controls since 1968 to own the responsibility for infrastructure performance, keeping facilities comfortable, efficient and safe. We combine people, processes and technology to positively influence patient experience, code compliance and infection control.

**People provide expertise.** A team of 15 Johnson Controls employees is on-site full time, managing facility operations every day. That includes managing the building automation system (primarily Metasys), overseeing central plant operation, and providing preventive maintenance, maintenance and repairs for HVAC mechanicals. Our team maintains life safety systems, including fire alarms and dampers. We support operating rooms and other critical areas by testing and calibrating air handling units, oxygen sensors, variable speed drives and refrigeration equipment.

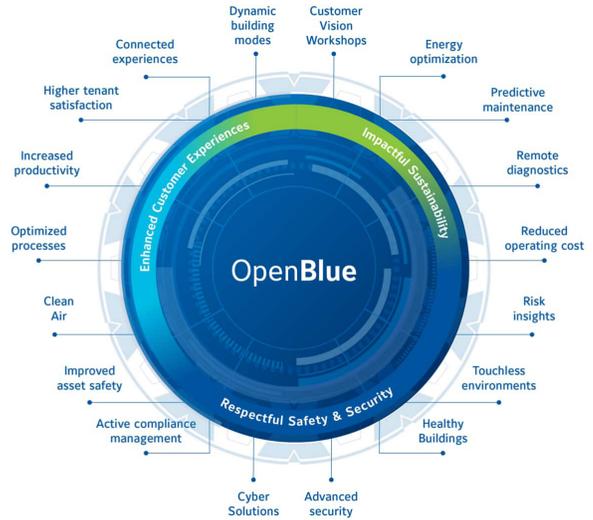
The premium O&M contract also includes banks of labor and maintenance hours for the hospital to use at its discretion.

**Processes ensure transparency.** Daily meetings with site leaders ensure clear communication and project tracking. We review performance monthly and quarterly and also participate in biweekly reviews of the campus master plan and current energy projects. Johnson Controls also provides documentation and guidance for Joint Commission reviews.

The power behind **your mission**



**Advanced technology drives efficiencies.** Our OpenBlue Enterprise Manager software solution continuously scans facility operations to uncover opportunities to save energy, improve indoor air quality and maintain occupant comfort. The system draws on site-specific and external data as well as proprietary algorithms, providing guidance for operating and budget decisions. Other technology solutions include smart connected chillers, with 24/7 Remote Operations Center monitoring to ensure fast response.



**Trusted advisers**

As the campus has grown, so has our role...from operating the original pneumatic controls to overseeing sophisticated digital solutions, increasing reliability to provide an uncompromised health care environment. Staff are confident that our team knows and follows procedures for safety and infection control – and can train other contractors to do so. The Johnson Controls team is included in the hospital’s work order management system and listed on their org chart.

But our role goes far beyond day-to-day O&M. Our team members consult on everything from the purchase of one piece of equipment to long-term capital campaigns. Hershey Medical Center relies on us to improve compliance outcomes, reduce infections and empower staff to deliver excellent patient experiences every day.

**Measurable outcomes**

- Annual energy savings attributed to plant optimization equal 4.2 gigawatt hours.
- Reduced energy use saves about \$300,000 a year in electricity costs and saves more than 1.4 million gallons of water per year.
- Eight major energy projects in the last 10 years have further boosted savings, including a \$416,000 efficiency incentive from the Hershey Medical Center’s electric utility.
- The optimized chiller system helped reduce CO2 emissions by 7 million pounds in the first year.

Source: Health Facilities Management, 5/18/17

*“The JCI team has been a valuable partner in the management of our Facility. The JCI team has provided significant support to the in-house facilities staff, in navigating the difficult regulatory environment associated with a Healthcare setting. In addition, they have proven to be a critical partner in the management of our energy use.”*

- Kevin Kanoff.



Steve Craver, longtime Johnson Controls Customer Business Manager, is embedded into Penn State Health Milton S. Hershey Medical Center’s day-to-day maintenance activities – a true team member. He collaborates with hospital leaders and staff to ensure our people, processes and technology focus on what counts: infrastructure performance that controls operating costs while supporting the best possible experiences for patients, families and staff.