



District brings bold vision for learning to life through energy savings & integrated technology approach

Nestled in the hills of North Mississippi, the community of Oxford is home to a small-town high school with a big reputation. Oxford High School students consistently score above the state and national average on ACT exams. Eighty-seven percent of graduates attend colleges and universities. And the Washington Post named Oxford High School the most challenging high school in Mississippi.

There's a long-standing tradition of excellence at Oxford High School. So it was no surprise that in 2011, when the district needed to accommodate growth in its student population, it set its sights high. Administrators envisioned a high-tech, energy-efficient school that would allow for greater collaboration and better prepare students to "academically compete and successfully thrive in the 21st century world." Behind the scenes, building systems would work together seamlessly to create a safe and comfortable environment, and flat screen monitors, computers and hand-held devices would connect wirelessly to facilitate learning. In fact, as part of its One-to-One Digital Learning Initiative, the district hoped to put a laptop in the hands of every student in grades seven through 12 beginning in the 2014 school year.

K-12 Project AT-A-GLANCE:

Oxford High School
Location: Oxford, MS
Enrollment: 1000

Project highlights:

- Reduced Energy Use
- 1:1 Digital Learning
- Enhanced Security & Safety
- District-wide System Standardization

OXFORD HIGH SCHOOL CASE STUDY



It was a bold vision. If realized, Oxford High School would be the first in its state to deliver a one-to-one digital learning environment. The community supported the initiative; a bond referendum raised \$30 million for construction of the new high school. But it wasn't enough to deliver everything on the district's wish list. Oxford High School needed to stretch its investment beyond what traditional construction would allow.

The answer was to build with the end in mind.

Future energy savings: An added source of funding

Johnson Controls suggested the district use future energy savings to overcome the funding shortfall. Through an Energy Services Agreement (ESA), efficient lighting, heating and air conditioning systems were installed during construction with the expectation that over the lifecycle of the building, the projected energy and operational savings would more than make up for the first costs associated with creating a more sustainable facility.

A Metasys® building management system was also installed to control and monitor critical energy systems within the new 200,000 square-foot facility, which are powered by a modular central energy plant. Compared to a traditional central plant, the modular unit is less expensive to build, takes up less space, is less costly to maintain and can easily accommodate future expansion.

The projected utility and operational savings were then leveraged to fund the district's primary goal: to create a safe, inspiring learning environment by incorporating advanced technology throughout the facility.

Creating a connected learning environment

The vision for the new Oxford High School was to create a connected educational environment, with features like campus-wide Wi-Fi, streaming video, 70" LED screens in every classroom and laptops for every student.

To bring the vision to life in the most efficient way possible, Oxford named Johnson Controls the single source technology contractor. The Technology Contracting™ model typically lowers first costs by 8-12% and, in the long term, decreases operational and utility expenses because customers don't need to manage multiple systems under various vendors.

As Oxford High School's technology contractor, Johnson Controls:

- Assisted with building design to eliminate redundant systems and cabling
- Assumed the risk of implementing the network infrastructure and all connected technology systems



- Accepted responsibility for coordinating with contractors and suppliers that provided IP-based components and systems for the building
- Implemented the latest advancements in fire safety and access control
- Took responsibility for on-time delivery and performance testing

The coordinated approach also laid the groundwork for future systems integration with other schools in the district.

Ensuring a safe, secure school

In any learning environment today, teachers can't teach and students can't learn if they don't feel safe. The new Oxford High School was designed to put security and safety first, and the Technology Contracting model made it possible to implement the most advanced security, fire safety and access controls strategy at Oxford.

The Johnson Controls P2000 security management system was installed to help the school reduce risk and keep occupants safe. The P2000 security management system monitors and controls access doors and provides real-time data to security and school personnel. Students are issued ID badges and must use them to get inside or to leave the building. Surveillance cameras monitor and record movement throughout the facility. Digital signage and zoned intercom systems keep students and teachers informed in real time.

And in the event of an emergency or security breach, a one-touch button triggers a lockdown and alerts first responders, giving Principal Mike Martin peace of mind. "I asked a question, I said, 'Who's all coming? Is this like the fire department or police?' And the guy stopped and he said, 'Everybody. You hit that button and everybody's coming.'"

"It can be done."

The Oxford High School experience demonstrates that school districts don't necessarily have to compromise on their wish list, even when traditional sources of funding fall short. As Oxford School District Superintendent Brian Harvey put it, "It can be done. This is a tremendous way to upgrade facilities or to improve facilities if you're planning new construction. We wouldn't have been able to do it otherwise. "

"It can be done. This is a tremendous way to upgrade facilities or to improve facilities if you're planning new construction. We wouldn't have been able to do it otherwise."

Oxford School District Superintendent Brian Harvey





The new Oxford High School opened its doors in January 2014 to more than 1,000 students. And as a result of its partnership with Johnson Controls, the school expects to:

- **Reduce energy use** by the equivalent of more than 200 homes annually
- **Decrease its carbon footprint** by the equivalent to the carbon sequestered by 537 acres of pine forest annually
- **Save \$6 million** in energy and operational costs over 15 years
- **Achieve LEED® Silver certification** by the U.S. Green Building Council, the first certification of a high school in Mississippi

The immediate benefits and projected savings are so significant, the district has decided to retrofit its old high school – and perhaps other buildings – to take advantage of the efficiencies that can be gained by standardizing on the Metasys building management system and scaling the high-powered IP network throughout the district.

To learn more about how Oxford High School created a connected learning environment using future energy savings, visit www.johnsoncontrols.com/oxford

Printed on recycled paper.

LEED® is a registered trademark owned by the U.S. Green Building Council® and is used with permission.

Johnson Controls, the Johnson Controls logo, Metasys® and Technology Contracting™ are registered trademarks of Johnson Controls, Inc., or its affiliates, in the United States of America and/or other countries.

©2014 Johnson Controls, Inc. P.O. Box 423, Milwaukee, WI 53201 Printed in USA CSST-14-297
www.johnsoncontrols.com

