



Sandwich CUSD 430 Superintendent of Schools Rick Schmitt (right) and Director of Technology Glen Bloemker review records related to the fiber optic project bringing high-speed connectivity to all schools in the district.



Glen Bloemker, Director of Technology, trouble-shoots a computer connectivity issue for a staff member. The Sandwich School District is part of the DeKalb Advancement of Technology Authority (DATA) project, serving the DeKalb County region. (Photos by Kathy Siebrasse)

Sandwich School District looks to the future with fiber optics

Fiber optics will play a huge role in future education opportunities for students in Sandwich School District 430.

Distance learning and video-conferencing are just two of the applications causing district-wide excitement, according to Superintendent of Schools Rick Schmitt and Director of Technology Glen Bloemker.

“We’ve been waiting for this day to arrive for several years and needless to say are just a little excited,” said Bloemker.

“It means that all six of our district school buildings are internally connected using fiber optics. It brings our district together and consolidates operations. It opens up an unlimited amount of possibilities for us,” added Schmitt.

Sandwich CUSD 430 is part of the DATA project—DeKalb Advancement of Technology Authority, serving the DeKalb County region. It works with Northern Illinois University (NIU) for the development of new educational programs. It also allows Sandwich to connect to Internet 2 through NIU for grant programs directed to K-12 schools, and through the Illinois Century Network (ICN).

Schmitt has been with the district for 21 years, and Bloemker for nearly seven. The district’s 2,266 students are taught in three pre-K-3 grade schools, one intermediate school for grades 4-5, one middle school for grades 6-8, and the high school.

“DATA finished its work in November, and by mid-December we had connectivity in all school buildings,” said Bloemker. “Ultimately, fiber optics and the high-speed broadband connectivity also will produce savings in funds and resources for the district. We will be able to consolidate servers and have a disaster recovery plan.”

Schmitt added, "High-speed broadband makes it possible to strengthen and support engaged learning. We realize not every student has connectivity at home. We plan to examine partnerships with the Sandwich Public Library to make connectivity possible while students are there."

The district is examining a long-range goal to provide all students with laptops, which could eliminate the need for textbooks, Schmitt said, adding it also is looking at a Bring Your Own Device (BYOD) policy. Most students third grade and older now have their own phones or notebook devices.

"All of our buildings are connected now, with fiber enhancing the wireless Glen and his team deployed last summer. That means all students could access our host network using their mobile devices," said Schmitt.

"We have some policies to work out first, of course, making sure it's a secure network and being able to control access to inappropriate sites. We have to continue to brainstorm ways to implement such a program because technology keeps getting better and better each day. We have to put our collective minds together to find a way to make it work; we can't put up a roadblock because of that. It boils down to educating our learning community on the proper procedures and uses," he said.

Sandwich CUSD has a very strong partnership with nearby Illinois Valley Vocational Center, which also will be connecting with fiber. IVVC has taken the initiative to possibly expand its sports management and health occupation programs with KishHealth System's Valley West Hospital, Schmitt said.

"It's my understanding the fiber IVVC will be using is the same the hospital will be using. In terms of connecting and utilizing those resources, it could be a great educational tool in the future," said Schmitt.

About 50 percent of Sandwich CUSD classrooms have "Smart Boards," with a higher percentage using LCD projectors providing Internet lessons.

Bloemker said he has already talked to tech coordinators at various surrounding school districts about the concept of distance learning. "We could set up a hosting center and all the schools could tap into that with the backbone of the fiber," he said.

In the past several years, Schmitt said the district has increased its technology budget in recognition of its importance to helping students and teachers.

"The Board of Education has been very committed to enhancing and upgrading our technology, moving from a part-time tech coordinator to a full-time tech director. We did that because of the way we deliver programs and services—everything from student management and financial systems, to the number of computer labs and the fact every teacher has a computer. The IT support is critical," said Schmitt.

Over the summer, the district deployed a wireless network system in all six buildings which has been very well received. The staff is able to connect anywhere in the building, and when necessary, students are given a guest account.

"Technology has even been enhanced during Board meetings. Board members no longer receive thick packets of paper documents; it's now provided electronically and has been a cost saver," Schmitt said.

The district recently switched to a new vendor for its student management system, which supports things like grades, attendance, discipline issues, lunch accounts and fees. Schmitt said it provides better efficiency and accountability if parents pay student fees and lunch costs electronically.

"Teachers also use the system's grade software so they can post grades, lesson plans, handouts and other materials in real time, available for students and parents. With the new system, each student/parent has their own ID and password," he said.

Bloemker added that the fiber optic network makes it possible to host the student management system on the Illini Cloud. "I feel the fiber will be more reliable and provide better response times."

Disaster recovery and off-site hosting are other important components made possible by the fiber network, Bloemker said.

"It gives us new disaster recovery options; we could do something with DeKalb or Sycamore school districts to put a server off-site in another location. Or we could store data on the Illini Cloud. It makes our system more secure and disaster proof," he said.

Bloemker and Schmitt said they have enjoyed working with the entire DATA support team throughout the process of bringing fiber to the Sandwich School District.

"We simply cannot say thanks enough to DATA and its support team from NIU —from the first discussions we had about connecting the DeKalb County schools together to final connectivity," they said.

NIU provides regional and national leadership for design, construction, and utilization of high-speed broadband networks, including administration and/or consultation work with DATA, iFiber, NIUNet, Illinois Rural HealthNet and the Broadband Development Group. Working with more than 700 local anchor institutions across the region, NIU's Regional Development Institute and Information Technology Services are building more than 2,200 miles of fiber optic networks in Illinois.

DATA is a partnership between DeKalb County Government, NIU and DeKalb Fiber Optics LLC. It is deploying a 130-mile fiber network across DeKalb County and northern LaSalle County. The majority of funding for DATA (an \$11.8 million grant) comes from the economic stimulus bill passed in 2009 (the American Recovery and Reinvestment Act).

The grant is administered by the National Telecommunications and Information Administration, which is a branch of the U.S. Department of Commerce. That agency's Broadband Technology Opportunities Program is spending about \$4.7 billion to deploy broadband infrastructure into un-served or underserved areas of the country.

Another \$1.3 million is being provided by the State of Illinois, with DeKalb Fiber Optic also contributing \$1.3 million in cash, services and materials. Other contributors include: NIU, \$150,000; Kishwaukee Community Hospital, \$100,000; and DeKalb County, \$75,000. For more details, visit <http://www.dekalbcounty.org/FiberOpticNetworkDATA.html>.

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