

Axis cameras as a foundation for interactive distance learning.

In St. Petersburg, Baltic Media Company has created a unique interactive distance learning system using Axis equipment.



Organization:
RCOKOIT (Regional Center for Quality Assessment of Education and Information Technology)

Location:
St. Petersburg, Russia

Industry segment:
Education

Application:
Remote teaching

Axis partner:
Baltic Media Company

Mission

The client engaged Baltic Media Company to create a universal video conference system to be used for all the center's activities, including:

- > Distance learning
- > Video conference meetings, seminars, presentations
- > Supervision of Unified State Exam and Basic State Exam procedures

The client did not set up any specialized hardware systems due to high cost and because a single multiplex stream could not be used; therefore, we needed to create an individual system that supported multiplexing.

Solution

The system was created based on video surveillance using AXIS P5534 PTZ Network Cameras and AXIS P3364, AXIS M1054, AXIS M3004-V, AXIS M1004-W, AXIS P1344, and AXIS P1346 fixed Network Cameras. The main criteria for selecting equipment were high image quality, ability to organize multi-stream transmission, and high audio digitization quality.

Selection was also influenced by interface simplicity, ability to remotely change the viewing angle, convenience of working with Axis PTZ cameras, and ability to integrate into a single system with other brands. The client plans to expand the system by adding more Axis cameras in St. Petersburg schools. The software used is the MVConf multipoint video conferencing software and hardware platform with centralized control for organizing video conferences.

Result

The outcome of the project is a multipurpose, regional-scale video conference system that connects St. Petersburg educational organizations into a single system with a large number of services. Today, the system can provide supervision and recording during exams, as well as open and closed video lessons, conferences, and meetings.

“The St. Petersburg education system’s top priority is to develop distance learning, which is based on the new system created by BMC in 2013. The new capabilities of this system, first and foremost for organizing video activities between participants of the educational process, allow us to greatly increase education quality in our city.”

Yu. P. Malyshev, Deputy Director for IT at the Regional Center for Quality Assessment of Education and Information Technology.

Project parameters

The St. Petersburg Center for Professional Development of Specialists (part of the Regional Center for Quality Assessment of Education and Information Technology St. Petersburg State-Funded Educational Institution of Continuing Professional Education) performs the functions of a regional center for distance learning in the St. Petersburg general education system. It is also a regional data processing center for the Unified State Exam and Basic State Exam, as well as the main organization for implementing information technology in education in St. Petersburg, including training educational personnel in the region to use computers and IT in education and education management.

Modern education requires more and more interactivity, and exam administration requires video supervision; these factors have resulted in a need to create a universal solution covering all of the center’s objectives.

Exam supervision

According to the Russian Federation Ministry of Education and Science requirements, USE and BSE State Accreditation (grades 11 and 9) administration must be video recorded. In St. Petersburg alone, this involves simultaneous recording of over 3,000 exam rooms. A supervision software and hardware system was developed for installation at the most critical points (director’s office, hallways) at exam locations. In 2014, over 60 such systems equipped with Axis IP cameras will perform exam supervision. A corps of public Internet observers will supervise exam administration via a Web interface.

Video conferencing

The system can be used to conduct online conferences. This feature is useful not only for teacher and director meetings, but also for interactive parent meetings and student roundtables and discussions.

Distance learning

Video conferencing provides the capability to hold both closed classes with small groups of students and open classes with the city’s best teachers via Web transmission.

The project has become one of the main tools for organizing classes and extracurricular activities in modern schools. Using the project to engage children with disabilities has important psychological and pedagogical aspects; it enables their self-actualization in various types of work, creative activity, and social integration. Visual display of information enhances instructional effectiveness. Conditions are created for students to successfully master the fundamentals of investigative activity and to learn universal educational actions; communication is simplified for project participants and organizers; and practical mastery of new knowledge and skills improves social adaptation. By participating in the project, children not only learn interesting material and gain new skills, but they also get the opportunity to evaluate their personal achievements. Cognitive activity grows, which is the goal of adopting new forms of education.

Project development

With further development, the new distance learning and video conference system will be able to connect 18 regional informational and methodological centers and over 700 schools in St. Petersburg. Each school will be able to organize its own video conferences with other schools and its own students (through distance learning).



БМК