

➤ Kontron Solutions@Work

We create digital brains for a more intelligent world

➤ RTSoft Preserves the Cultural Heritage of Moscow Kremlin

Monuments of architecture and arts, including Moscow Kremlin, the State historical and cultural museum, always impose higher reliability requirements to automated controlling systems. Modernization of Kremlin's objects was a very complicated work because of possible serious consequences of even the minor damages.

At the end of December, 2004, RTSoft competed a project for development of software for integrated control room, which integrated control of air-conditioners in cathedrals of Moscow Kremlin museums.

The project provided for:

- development of a central air-conditioners automated control system;
- modernization of heating systems and exhaust ventilation systems;
- development of an operator workstation.

The main requirement to the automated cathedral equipment monitoring and control system was the rigid observance of indoor temperature and humidity conditions.

The system provides for:

- monitoring actuators conditions and of indoor RH and temperature control system parameters;
- visual (on a screen) preventive and emergency notification;
- output on the screen and preview of current parameters in the form of diagrams and historical trends;
- alarm and error processing;
- preview of the operator's actions protocols;
- control of access to service system functions;
- archiving and trending against time of main technological parameters (temperature of water in the heating system and common loop of an air-conditioner, year-round temperature and humidity in the exhibit hall, temperature in the Church of Laying Our Lady's Holy Robe, in the Belltower of Ivan the Great, in the office).

The main complexity in project realization was to combine two dissimilar museum equipment control and monitoring systems. Communication solution, proposed by engineers from RTSoft, allowed realizing interfaces and protocols of communication with different hardware and software of local automation systems. Application software of projected system uses standard interprogram communication mechanisms such as OLE, OPC or DDE. Supervisory control system for air conditioning, ventilation and heating of the Assumption Belfry, Belltower of Ivan the Great, and the Church of Laying Our Lady's Holy Robe is built upon Citect's SCADA system as the most comfortable product in respect to openness, scalability and support of standard protocols. The system for monitoring engineering equipment of the Twelve Apostles, Assumption and Archangel's cathedrals is installed on MicroScada Miksys.

The common cathedral equipment control and monitoring room is not the first project, which was implemented by engineers from RTSoft for the museum preserve. A year before the works were completed to create and put into operation a hardware and software complex of the automated control system for air conditioning, ventilation and heating of the Assumption Belfry. The lower level of the system is based upon Schneider Electric's programmable controllers with elements of Transparent Ready technology. The control point software was developed on the basis of the Citect's SCADA system. In the same 2003, RTSoft developed a project of the Annunciation cathedral's engineering equipment overhaul, the concept of the project provided for reconstruction of the power supply system and automation of supporting the indoor temperature and humidity in the specified limits. Technical solutions used in the project were based on the Schneider Electric's Transparent Ready technology and Citect's SCADA system.

Today, all the automation system, realized by RTSoft, function successfully and provide the technological parameters control accuracy, user-friendliness of process control and observance of necessary climatic norms to preserve the cultural heritage of Moscow Kremlin.

About Kontron

Kontron AG is a worldwide leading manufacturer of embedded computer technology and robust solutions for mobile use. It supplies leading OEMs, system integrators, and application providers in a wide variety of market segments such as data and telecommunications, automation, measurement and control technology, traffic engineering, medical and military technology, as well as aviation and energy. Kontron's goal is to enable customers to significantly reduce their time to market and to create clear competitive advantages through products such as high-performance open computer platforms and systems, single board computers, HMIs, and mobile computers. Kontron employs over 1,900 people worldwide with production facilities in Europe, North America, and the Asia-Pacific region. The company is listed on the German TecDAX 30 with the company symbol "KBC". Kontron is the only company based in Europe which has premier status in the Intel® Communications Alliance and, thus, has early access to leading Intel technologies and preferred engineering support. For more information about Kontron, visit the company's website: www.kontron.de.

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