



High Tech Veterinary Department in North Rhine Westphalia

Integrating open systems technology creates financial savings for the user, simplifies the project flow at the planning and execution stages, and offers medium-sized businesses a new field of activity. This is the analysis of Dipl.-Ing. Erhard Kreth, building planner at the North Rhine Westphalia Property Administration Department (BLB), in reference to the newly completed Chemical and Veterinary Public Health Department in Muenster (CVUA).



The work scope of the CVUA:

The main activity is to protect people and animals from preventable diseases. Therefore, in 2003, around 450,000

specimens for animal disease diagnosis and food supervision were tested using physical, microbiological and chemical methods.

The NRW Property Administration Department was responsible for the complete CVUA complex. Kreth's responsibilities included supervising the planning and construction of all technical installations and building services engineering. These responsibilities cover heating engineering with a total performance of 1,700 kW, ventilation technology with over 20 ventilation units and a volume flow of approximately 200,000 m³/H together with an extensive cooling system, consisting of two chillers with a total volume of 880 kW. The complete building cost amounts to 30 million euro. 55 percent, or 15 million euro alone, is invested in technical equipment. The buildings offer work space for around 180 employees with 240 rooms, of which 132 are modern laboratories.

HGI: What were the prerequisites or specifications involving building automation?

Kreth: In the previous projects, we had very good experiences with building automation based on openness, multiple systems and IT technology. We were therefore glad to form a partnership with the engineering firm BRANDI IGH who shared our assessments. They were in the position to realize a functional performance

specification based on LONWORKS technology, satisfactorily meeting all our requirements. It was especially important for us to integrate all technical systems with IT. Our planning included an integrated Ethernet-based backbone and the installation of a web server for the visualization and operation of systems engineering. This effort resulted in considerable cabling and IT hardware cost reductions.

HGI: There were surely high demands involving building automation that are not easily realizable?

Kreth: That is true, but we wanted to fulfill our part in turning CVUA into one of the most modern inspection departments in Germany. We decided that the challenges involving building engineering could only be solved with the most modern control equipment based on LONWORKS technology. That's why we offered the contract to HGI who rendered a bid based on LONWORKS Technology.

In September 2003, the building was placed at the disposal of its users. The North Rhine Westphalia Property Administration Department was completely satisfied with the technical installations. Naturally there were some problems but the system integrator responsible for the automation of all the sections was able to solve them quickly together with the companies concerned. At the construction stage, there was a positive atmosphere and good team work.

Also, short-notice changes such as the manual intervention in the volumetric current regulation of the laboratory ventilators could be carried out within the shortest time period and completely problem free. Due to the decentralized installation of the LONWORKS network and good cooperation between the system integrator and the component manufacturers, this problem and other difficulties were resolved very quickly.

The user was also more than satisfied with the technology, especially the end result. This is thanks to the long discussions between the user, planner and system integrator which allowed the assembly sections to be automated according to the CVUA's own needs. The technicians can receive information on the condition of the systems from any location at any particular time. On the basis of graphically represented plant information, processes can be monitored, operated and optimized.

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An intelligent alarm system informs users about faults and assists with problem detection.

HGI: If you were to start the project again with the knowledge you have now, would you implement it in exactly the same way, and have the planning costs been exceeded?

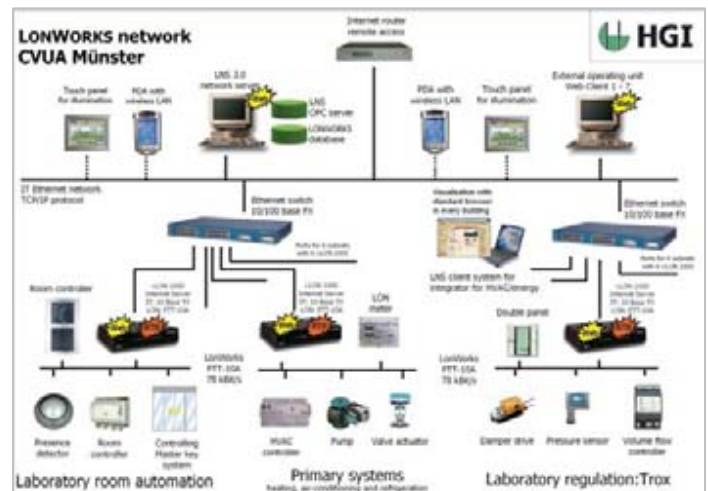
Kreth: The planning costs have been adhered to completely, but we have already experienced this with other LONWORKS projects. On the whole, I would implement the project in the same way, but I would recommend the building owners to install devices for sun protection on the individual façades that operate automatically according to the sun's position. This would save energy: the degree of sun protection would be automatically adjusted to prevent the laboratories from becoming too hot, thus reducing the amount of energy required for cooling. During the planning stage, there was also no LONWORKS compatible gas alarm system. This proved to be a big disadvantage since the necessary relocation of the system greatly increased the cabling costs. With a LONWORKS system, it would only have been necessary to connect the module to the bus at a different location, with minimal costs.

HGI: You have been a planner for the BLB for 22 years. What are the biggest advantages of LONWORKS technology compared with other systems?

Kreth: Apart from the overall advantages of bus compatible communication, the biggest advantage is without doubt the standardization of LONWORKS technology. Future expansion is no problem, and existing LONWORKS devices can be easily exchanged with devices from other suppliers. Moreover, the whole project is speeded up by using a system integrator. As "carer" for all assembly sections, the integrator has a complete overview and takes responsibility for the entire building automation system. Through the uniform LONWORKS database it is possible for the project to be taken over in the future by a different system integrator. One disadvantage is the limited number of LONWORKS suppliers, but I foresee the continued growing acceptance in Germany. This is confirmed by the light+building trade fair over the last few years.

HGI: With HGI you of course had a building automation specialist in control of project implementation, but it is still a small company in comparison with others. Would one of the "bigger" firms not have handled the project better?

Kreth: No, I don't think that's right. Size alone is no measure – quality, reliability and experience are called for. In order to secure a high standard of quality for the building automation system, it was stated in the call for tenders that only LNO certified system integrators would be considered. Contract awarded by: North Rhine Westphalia Property Administration Department (BLB). Number of LONWORKS nodes: 840 nodes/ 8500 data points. Suppliers: TAC, Echelon, BTR, Thermokon, Trox, SysMik, Danfoss, Grundfos, Belimo, Oppermann. Topology: LONWORKS FTT10/Backbone: IP Channel, 100 Base FX. Assembly sections: Heating, ventilation, sanitary, electrical engineering, laboratory control, IT network. Network management tool: LonMaker for Windows 3.0.



Contact:

HGI mbh
Tel: +49 5459 8017 0,
info@hgi.de
www.hgi.de