London Borough

A London Council's facility management system combines
Entech technology with Nexa Monitoring software.

CaseStudy

CHALLENGE

To replace an obsolete DOS-based building monitoring system with a comprehensive system that would provide:

- more efficient, reliable monitoring and fault reporting
- central monitoring of equipment in remote locations
- easy future expansion

SOLUTION

Nexa was selected to monitor equipment in remote locations. Its graphic front end simplifies control by presenting on-screen visual indicators that identify faults and alarms.

CONCLUSION

The Nexa solution has been so successful that operators are often alerted to system faults before residents themselves report the problem.

CHALLENGE

The council for a southeast London borough that administers local government services for approximately 250,000 residents recognized it needed a new monitoring system for its residents housing. The council is responsible for the safety of occupants in council-owned or maintained multi-tenanted properties and tenants in sheltered housing schemes. Resident safety may be put at risk if equipment and site-services are not adequately maintained.

An issue facing the council was the original remote lift monitoring system used in many of its multi-occupancy properties needed to be replaced. It was a DOS-based proprietary system that had become unreliable, inundating the council with false alarms about inoperative lifts. The council also wanted to extend the parameters of the system to include additional on-site equipment, such as water pumps, tanks, heating boilers and riser pumps.

The council needed to identify faults quickly to reduce the incidence of complaints. Thus, the council decided to invest in a new, more comprehensive building monitoring system.

SOLUTION

Entech, a Citect silver integration partner, engineered and installed a monitoring system using Nexa, Citect's facilities monitoring software, for the remote monitoring of lifts, water pumps, water tanks, boilers, and riser pumps in the council's multi-occupancy buildings across the borough.

Nexa Monitoring provides central visibility and control by integrating all facilities systems, including HVAC, lighting and access control

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Revolutionizing the way the council maintains buildings

"The Nexa monitoring system provided by Entech is revolutionizing the way the council operates and maintains buildings in the borough. It takes the council from a reactive to a proactive approach, alerting engineers to faults with lifts, pumps and boilers sometimes even before residents are impacted. The council is now able to rectify these faults quickly, with minimum disruption."

LES MOON, Engineering Director Entech

across an entire enterprise to deliver a single facilities monitoring and control system.

Entech fitted a number of remote sites with hardware designed to monitor on-site equipment and communicate with Nexa Monitoring, centrally located at the council offices. The Nexa Monitoring interface was customized by Entech to represent on-site equipment and intuitively guide users via a series of simple, onscreen visual indicators that identify alarms and faults.

In the case of the London borough, the Nexa system provides residents with more efficient service enabling problems to be acknowledged in real time and remedied more rapidly. In addition, it has reduced costs through improved use of building services and maintenance personnel.

PROJECT DESCRIPTION

The London council's facility management system combines Entech designed and developed AMACS (Advanced Monitoring and Control System) units with Nexa Monitoring software.
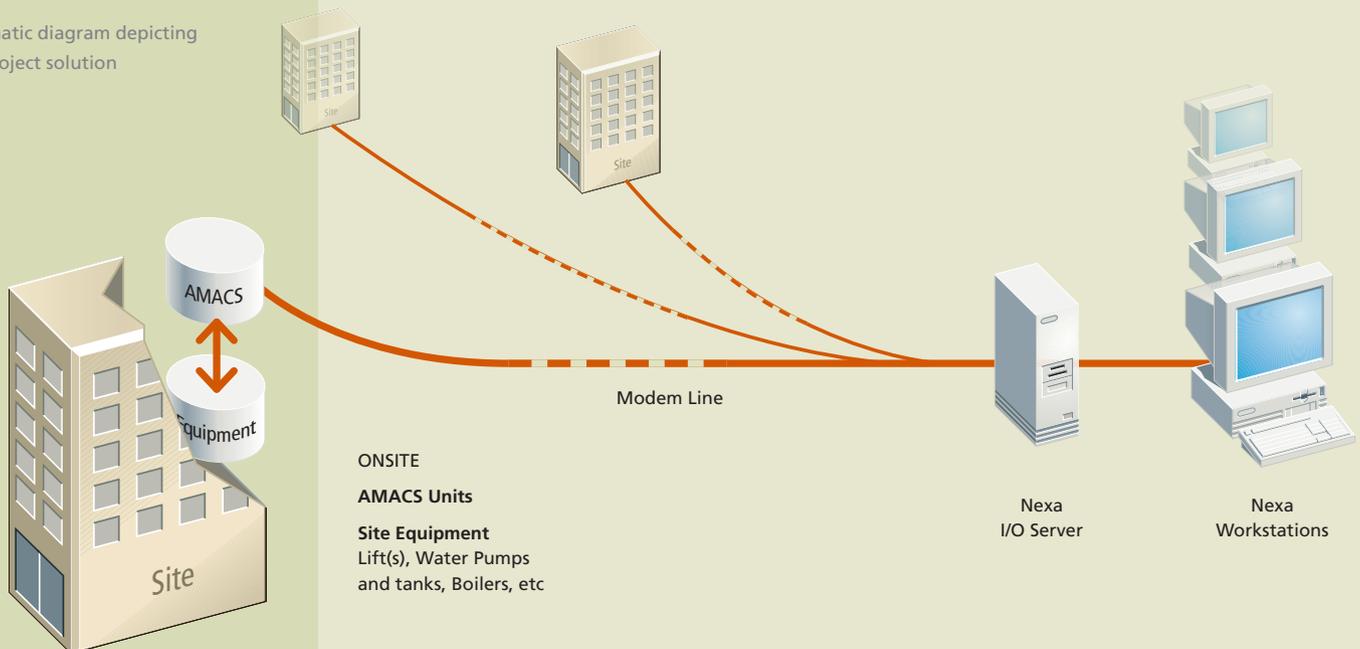
AMACS units are located on council sites that are being monitored. Each device has numerous analogue and digital inputs as well as relay outputs that are directly connected to the equipment being monitored. All AMACS units use on-site AC power and are fitted with batteries ensuring continuous communication and monitoring in the event of site power failure.

Each monitored item of on site equipment has specified alarm and monitor points connected to an AMACS unit. The units dial in alarms, using an internal modem, to the Nexa Monitoring system via Modbus protocol.

The Nexa Monitoring system I/O server and master terminal is located at the council's head office. The system receives alarm and monitoring data, which is logged and depicted graphically in real-time.

The Nexa Monitoring system has a 7-line modem installed ensuring the system can connect to multiple remote sites and accommodate multiple users.

Schematic diagram depicting the project solution

AMACS

Equipment

Site

Modem Line

ONSITE

AMACS Units

Site Equipment
Lift(s), Water Pumps and tanks, Boilers, etc

Nexa I/O Server

Nexa Workstations

Based on the alarms received by the Nexa Monitoring system, council engineers can arrange for relevant maintenance companies to attend the site.

Once logged on the system, engineers can select a site and observe the equipment in real time. The engineers can also remotely control some equipment. For example, the lifts can be operated in manual mode, aiding fault diagnosis and minimizing the number of unnecessary site visits.

BENEFITS

Centralized monitoring and alarm management

Nexa Monitoring provides central alarm reporting and management. This has led to rapid problem detection and enabled more effective response to problems. The council now often acts to correct problems before they cause disruption to tenants.

The system facilitates alarm reporting and user interrogation. Les Moon, Engineering Director at Entech explains the value of the alarm data: "If there is a lift breakdown

in Deptford, the council now know about it the moment it occurs. The council can make the best use of resources and respond quickly by sending an engineer closest to the scene." More importantly, Les Moon explains, "The council is responsible for a number of sheltered housing schemes. If boilers in these premises fail, vulnerable people can be at risk. The new system means council engineers are aware when problems occur almost immediately and can correct them right away – often before the tenants even know a problem has occurred."

Highly scalable and large system capability

A key reason that Nexa Monitoring was selected was the ability to accommodate the council's plans for future expansion of the system. At present, the council is using the system to monitor 25 sites and plans to add 15 sites each year as capital becomes available. Nexa's true client/server architecture makes it highly scalable enabling the council to expand the system in accordance with its business plan.
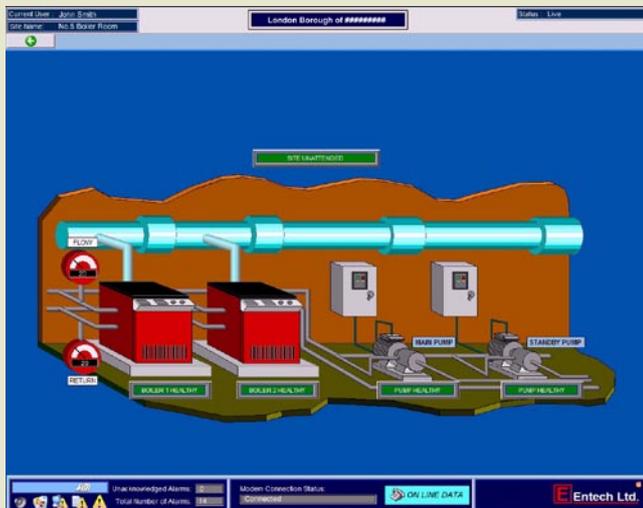
Visualization of the Boiler Room
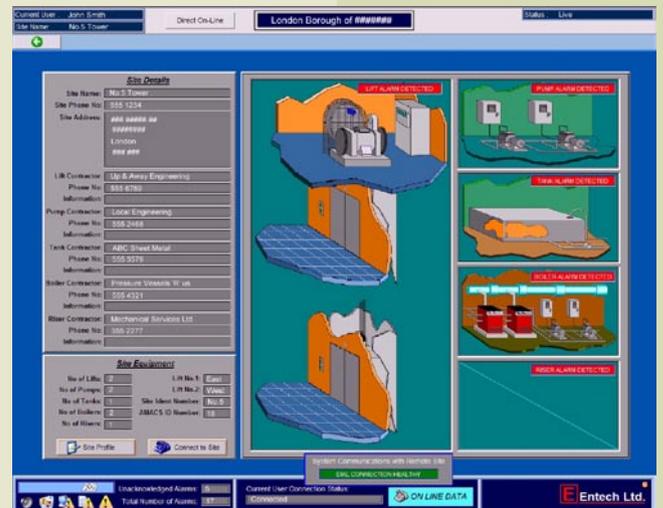
Dial Screen showing the subcontractor contact details for each sub-system

> "The Nexa platform provides the council with records of equipment breakdown histories for their buildings, enabling the council to perform trending to anticipate and obviate longer-term problems."
>
> LES MOON,
> Engineering Director Entech

Nexa Monitoring can control several hundred thousand I/O points located in one or more sites. This large system capability means the council can use Nexa to realize its ultimate goal of monitoring 300 sites.

Continuous monitoring and reporting

The Nexa system provides 24/7 continuous monitoring and reporting. A central control room housing the Nexa system is located at the council head offices and staffed during normal office hours. Outside these hours, the system is operated from a remote control room where after hours council engineers are located. This ensures site equipment critical to tenant safety, such as central heating during winter, are continuously monitored and fault response is greatly improved.

User Friendly Configuration Tools

Nexa Monitoring contains many user-friendly configuration tools, employs open architecture and is easy to use. The built-in drivers for I/O devices combined with configuration tools, such as, industry specific graphic symbols and the 'Bulk Tag Importer' meant that Entech was able to quickly develop and deploy the solution on behalf of the council.

CONCLUSION

Nexa Monitoring has provided the council a real-time, centralized, reliable facilities monitoring and control system. Using Nexa Monitoring the council has achieved its business objectives of improved tenant service, increased council staff productivity and lower operating costs.

Nexa's open architecture and high scalability provide the council a monitoring and control system that meets the council's current requirements and future facilities needs.

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