

Echelon Corporation

www.echelon.com



“Wonderware makes system design much easier and saves both time and money for our customers .”

Steve Nguyen
Director of Corporate Marketing

Echelon Incorporates Wonderware Software to Showcase Powerful Facilities Management Solution

Goals

- Use Echelon Corporation’s headquarters building to demonstrate the power and flexibility of automation systems built on Echelon’s technology incorporating Wonderware software
- Enable Echelon to benefit from the energy management, control and cost savings that the technology provides
- Contribute to the San Jose, California community by conserving power and participating in local demand response programs

Challenges

- Echelon needed to design on an open platform that would enable products from many different suppliers to work together
- Find a solution that could bring software and development costs to an affordable level that would be justifiable for varying sizes of customers and facilities

Solutions and Products

- Wonderware InTouch® HMI

Results

- Echelon’s headquarters uses 40% less energy than comparable buildings in the area
- Corporation saves approximately \$30,000 yearly by participating in San Jose’s demand response programs
- Using the Wonderware software solution, Echelon has built a compelling demonstration model for prospects, customers, the press and analysts
- Design time and development costs are lower for Echelon and systems integrators that work with their solutions



San Jose, California – “Practice what you preach” may sound like something your mother would advise you to do, but those who apply this adage to their business can reap rewards that drop right to the bottom line.

Echelon Corporation is a case in point. Its advanced automation systems are installed in hundreds of thousands of buildings worldwide and the company enjoys a 40% market share. But that’s not enough to content Echelon’s leaders. They set about making their own headquarters a demonstration model to highlight the capabilities, impact and savings that their solutions can deliver. Echelon has installed their latest technology in the building and also participates in San Jose’s demand response programs, which bring huge additional savings in overhead.

The Case for Building Automation Systems

In a typical non-automated building, maintenance crews tend multiple systems for lighting, ventilation, heating and air conditioning. If the people who work in the building have access to the controls, they may make adjustments that not only put wear and tear on the equipment, but can waste major amounts of energy and raise the facility’s costs.

In typical automated setting, sophisticated control systems are programmed by engineers to provide comfort, and maximize resources and prevent waste. Echelon’s technology allows individual employees to take control of their office and space environment – working in harmony with the engineers that are responsible for the overall building environment. Echelon’s technology helps customers achieve better control whether they have one building or need a system that is interoperable for multiple locations.

And today, more than ever, businesses need solutions that deliver a multitude of benefits. They want easy-to-use systems that make their employees as productive as possible, conform to ever-tightening operations and maintenance budgets, and show a corporate commitment to sustainability.

With Demand Response Everyone Can Conserve and Save

Municipalities and utilities recognize these needs and many, including San Jose, respond by offering demand response programs. Demand response goes beyond energy efficiency because it is dynamic – customers opt in and agree to reduce or shift their electricity use during peak periods. In return, their bills are lower and they receive rate breaks that can add up significantly.

Demand response can also produce a “conservation effect.” For example, the Demand Response and Smart Grid Coalition in Washington, DC says that overall electricity reductions of up to 11% have been experienced due to increased awareness of consumers. This extends to employees who work in buildings with automated systems; they are likely to want to pitch in and contribute to their company’s efforts to lower greenhouse gas emissions, protect the environment and save money.

Solving the Challenges of Integration and Demonstration

But to get the most from demand response programs – or to boost efficiency when these programs are not available – businesses need to install a building automation system (BAS). And while that may sound simple, it can actually be a



very complicated proposition using product that don't have Echelon's technology built-in.. These systems must enable hundreds or even thousands of separate devices to communicate with one another to coordinate the operation of lighting, temperature, ventilation, access control and security.

To illustrate, Echelon's corporate headquarters is a 77,000-square foot facility. Its building automation system is comprised of more than 16,000 I/O points in 1,100 devices that monitor inside and outside air temperature, humidity, wind speed, light levels and more. These sensors and control devices come from more than 20 different manufacturers integrated into a single, integrated building network.

To meet Echelon's goals, the software side of the solution had to seamlessly integrate all of the hardware. Plus it needed to be easy to learn and operate for Echelon's facilities management workers. And finally, it had to fulfill its ultimate purpose of demonstrating the technology and its many benefits to the press and prospective customers.

The local distributor, Wonderware NorCal, worked with Echelon to add the human machine interface (HMI) to the BAS. Wonderware InTouch software connects Echelon's LNS® DDE server to the LNS applications database, providing an easy-to-understand graphical view of the system and a clear demonstration of the power of the solution.

Seeing is Believing

Visitors to Echelon get a comprehensive view of the web-based system from the Corporate Demonstration Room. Here, on-screen graphics provide a non-technical overview of the integrated, interoperable building system. Scheduling, scripting and trending reports reveal the depth of data available through the BAS as well as its ease of use. A graphical layout tracking real-time energy use displays sub-meters that are connected to each floor's circuit panels as well as touch panels in the CEO's office and conference rooms which are equipped with custom InTouch HMI interfaces.



By showing how the BAS is managed day-to-day, plus its powerful diagnostic and reporting capabilities, the demonstration clearly communicates the many advantages of Echelon's solution within a few minutes.

Ensuring Design Efficiency and Affordability

Like any business that makes an investment in technology, Echelon is focused on enabling its customers to feel confident that their BAS will provide flexibility and functionality today and in the future. One reason that customers choose Echelon is that its LonWorks® platform has been endorsed by standards-setting bodies such as ISO and IEC, meaning that it is accepted globally as a market standard. And partners are also assured that they will be able to create open, multi-vendor systems for the building control industry.

Additionally, the Wonderware software supports the Echelon platform with standardized graphical objects that speed development and design. And, in many cases, updates and modifications can be made by facilities managers themselves.

The strength of Wonderware off-the-shelf HMI software combined with Echelon's open platform means that these BAS systems are more affordable than those with custom user interfaces. And they provide value to customers whether they want to manage many locations from a central office or install at a single site.

The Power of Partnership

The importance of managing power to control costs and conserve resources will continue to grow. As Echelon's solutions evolve, their headquarters building will remain a vital tool for showing innovative new ways to meet these business goals. Wonderware is proud to be there, helping to translate complex technology into demonstrations that are compelling for both technical and nontechnical audiences. As the two companies work together, they prove the truth in another old proverb, "Two heads are better than one."



Invensys • 5601 Granite Parkway III, #1000, Plano, TX 75024 • Tel: (469) 365-6400 • Fax: (469) 365-6401 • iom.invensys.com

Invensys, the Invensys logo, ArchestrA, Avantis, Eurotherm, Foxboro, IMServ, InFusion, SimSci-Esscor, Skelta, Triconex, and Wonderware are trademarks of Invensys plc, its subsidiaries or affiliates. All other brands and product names may be the trademarks or service marks of their representative owners.

© 2010 Invensys Systems, Inc. All rights reserved. No part of the material protected by this copyright may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, broadcasting, or by any information storage and retrieval system, without permission in writing from Invensys Systems, Inc.