



# ISDE, Queretaro Mexico

**ISDE Automates the Ferroparque's Building with LONWORKS-Based Technologies, Reducing Energy Consumption by 20% and Costs by 25%**

## The Challenge

Ferroparque is an office building located in Queretaro, Mexico, which its owner wanted its four-story building to be completely automated by integrating the security, lighting, access control and air conditioning within each office. While quality was extremely important, keeping project costs down was critical as well, as was the need to use local, Mexican companies, to both install and maintain the system. In the end, the comfort, energy saving and security had to be guaranteed for the workers inside the building.

After thorough research, Ferroparque's owner turned to ISDE, a pioneer of home and building automation, as well as streetlighting, all built with the most advanced technologies primarily based on the open LonWorks® standard. Even that ISDE is located in Spain, the company made sure they had the experience and local relationships Ferroparque deemed essential to the success of the project. ISDE's most important decision: Finding the very best way to interconnect the different LONWORKS-based systems into this 'smart building' while meeting the overall goals of the company.

## The Solution

To automate the building, ISDE again chose to work with the proven LONWORKS networking platform, mainly due to its:

- Ability to interconnect and install a large number of controllers (more than 100).
- Open integration with a great amount of hardware and firmware available on the market (ie air conditioning, lighting)
- Real Time alarm reporting from supervisor post in case of door or window opening with someone in a rooms
- Ability to easily and quickly fix issues with a variety of available tools for error detection
- Flexibility in the choice for different devices and peripherals (sensors, buttons, etc.)
- Scalability and allowance of different topologies according to the needs of each floor



With LONWORKS, ISDE was able to integrate multiple system components using a common system architecture and infrastructure – in essence, one set of wires through which all components are attached and can share common information. Data can travel from any point on the network to any other point with no single point of failure, embedding high-level security and allowing full component interoperability in a peer-to-peer fashion.

“LONWORKS is an ideal networking platform for a building automation project like Ferroparque's, enabling companies to choose the best interoperable technologies for the specific project requirements,” said Engineer Guillermo E. Villamil Hernández, CEO from Nuovo Espacios Inteligentes the local integrator responsible of the system implementation.

Working alongside local engineers and integrators such as Engineer Guillermo Villamil, ISDE and Nuovo divided the system control into two types of management: Room Management System (RMS) and Building Management System (BMS). Inside each office (RMS), the system integrates all disposed services, as access control, lighting and air conditioner control, technical alarms and security, with all controlled intuitively from a touchscreen keypad and/or a virtual remote controller. The virtual remote controller consists of software installed on each computer that allows them to control all the office systems without the need to

Visit [www.lonmark.org/connection/case](http://www.lonmark.org/connection/case) for more case studies

manually control them by going to each peripheral equipment such as push-buttons, thermostat, etc. In the common areas (BMS), the system controls the main services such as access control, lighting, air conditioning and technical alarms.

Each office and common areas are connected to a central supervisor station, where the security personnel can watch the technical and intrusion alarms possible in each office, and also registers each access control made inside each office or other areas controlled.

## The Result

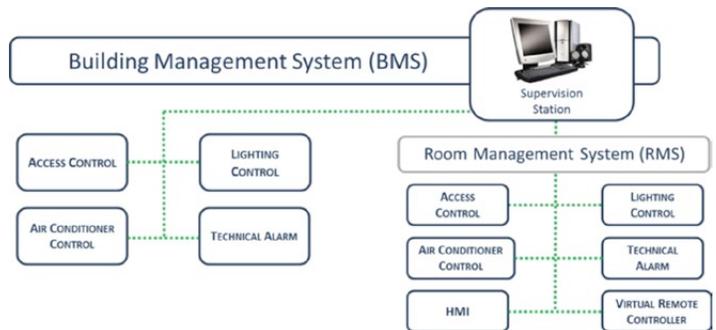
Since the project's completion in May 2014, Ferroparque has realized a savings of as much as 20 percent in energy consumption (lighting dimming, motion sensors, air conditioner control) and up to 25 percent in maintenance cost (using SmartServer allows remote maintenance).

Examples of the 'smart building' capabilities that enable the above savings benefits include:

1. Electromagnetic locks for each office that are accessible only by the person with the proximity card to that office and automatic alert if the office is entered somehow without permission
2. Supervisors able to provide access to offices by worker time, worker type and security clearance by customizing each office with a setpoint temperature and lighting control according to the type of person accessed. For example, a cleaning person can only access an office outside of working hours, but when they are able to access the office, the system knows it is a maintenance person only in the office for a short time and won't turn the air conditioning on.
3. Custom software on the computer of each worker, enabling them to control the systems inside each office: lighting, air conditioner and even opening the door.
4. ON/OFF control by push-buttons and motion sensor detection; and dimming circuits in the CEO office allowing to adapt the lights according to the actual room day-light. In meeting rooms, manual dimming circuits allow to adapt the room according to the worker.



"ISDE and the open LONWORKS network platform provided exactly what we were looking for when choosing to automate our building: advanced yet open technologies that would connect our systems at a reasonable cost for the creation and maintenance," said the building's owner, "In the few months since the completion of the project, we've realized significant savings in both consumption and cost, making us real optimistic about our investment made, while providing our workers with a more comfortable work environment with a greater sense of security while in the office or at home or traveling."



550 Meridian Avenue  
San Jose, CA 95126, USA  
Tel: +1 408-938-5266  
www.lonmark.org

### Contact:

ISDE  
C/Ciudad de Frías, 21- Nave 3  
28021 Madrid España  
Tel.: +34 91 643 70 75  
Móvil: +34 659 167 140  
oficinatenica01@isde-ing.com

Visit [www.lonmark.org/connection/case](http://www.lonmark.org/connection/case) for more case studies