



Delivering integrated, efficient fire and life safety for a major facility in India

Background

In 2017, a large company in India put out a request for proposal (RFP) for a significant multi-use development project that involved the installation of large-scale, integrated systems in retail, recreational, commercial, and residential spaces.

The RFP specified the need for low voltage solutions that would work

seamlessly with a complex fire detection system. The system was designed collaboratively by an international engineering consulting firm and the customer's in-house engineering and design team, both of which were highly experienced in planning, executing, and maintaining life safety systems.

The scope and scale of this project meant that specifications had to be aligned with international standards. User experience and future upgradeability were also key priorities for the customer.

KEY CHALLENGES AND EXPECTATIONS

Large-scale installation: The Fire Alarm System (FAS) included more than 30,000 sensors and devices, 45 fire alarm control units, 45 touchscreen network information displays, two graphical command centers, and an integrated firefighter telephone system. The system was linked together with a dedicated fire alarm system network using a single-mode fiber-optic grid.

Expansion capability: The ability to easily expand the system without compromising network speed or node performance was a major requirement of the RFP. The first phase of development focused on the commercial and recreational areas of the facility. The second adds office, residential, and retail spaces.

Peer-to-peer, node-based architecture for high availability: Customer requirements and RFP specifications made eliminating single points of failure essential. This indicated the need for peer-to-peer architecture, which allows the network to continue operating even if individual nodes fail. Individual control units, and the devices linked to them, will also continue to function independently of the network if it malfunctions.

Management of the entire system from a single touchscreen operator console: The customer required all alarms, troubles, and system events for the entire facility to be displayed and accessible from a single graphical management console with a touchscreen operator interface.

Integration: Our customer required comprehensive alarm monitoring from a single integrated building management console and expected to have fire alarm system events automatically communicated to the building management system.

THE CUSTOMER REPORTED BACK ON THE NEW FUNCTIONALITIES PROVIDED BY THE ES NET SYSTEM

“Commissioning was extremely efficient. Engineers can download system software in seconds and restart all the control units in the ES Net network at once. Built-in diagnostics allow us to easily monitor the health of our network. ES Net communicates a point’s status, change of state value, and other information across the system, allowing alarms, alerts, and events to be displayed and managed at the central touchscreen command center. We can also configure the system to send critical information and alarms to staff via their cell phones, email, or SMS text messages.”

Case study

OUTCOMES

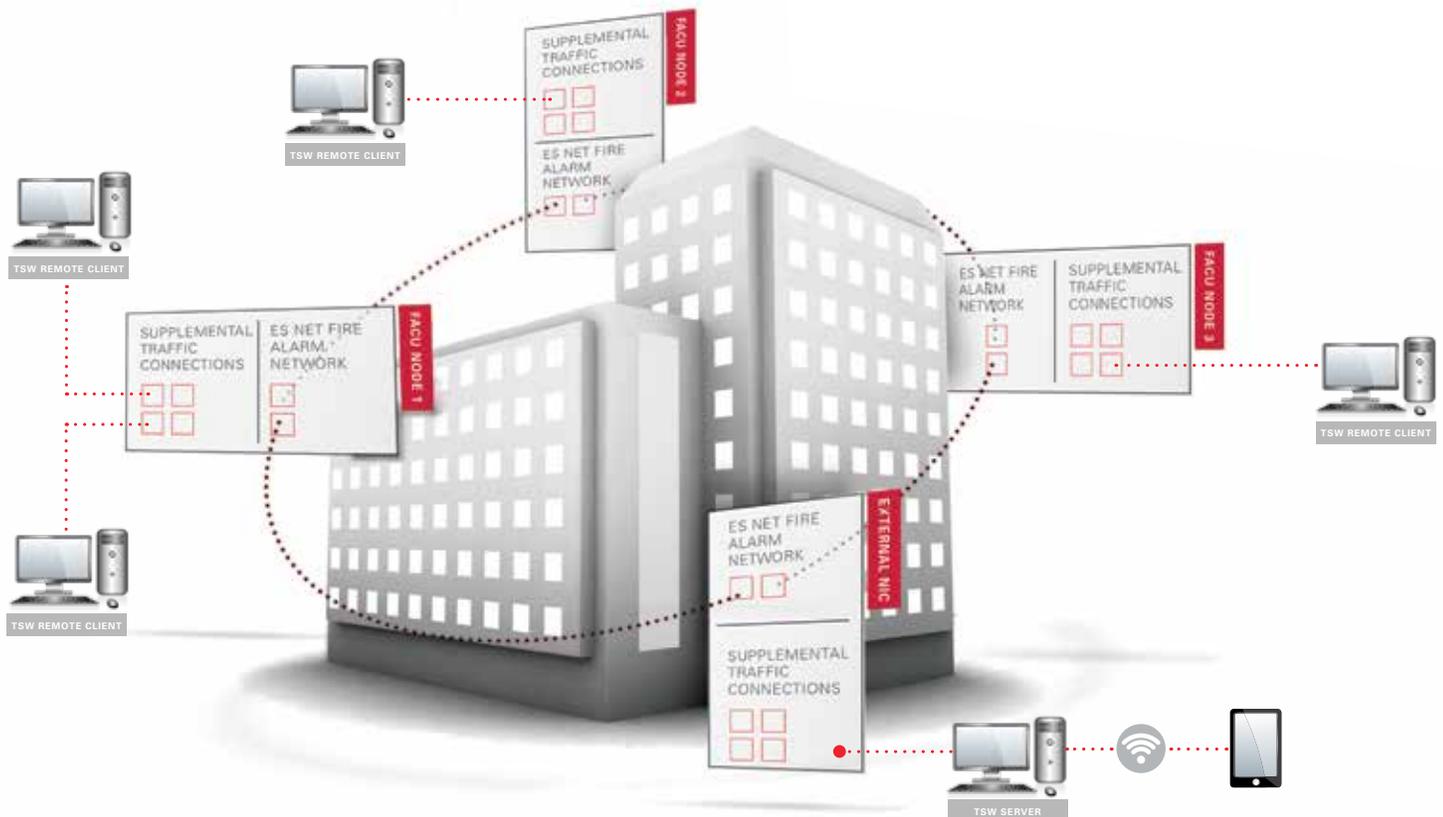
Johnson Controls recommended the Simplex ES Net IP-based fire and life safety network because of its high levels of performance and speed. The impressive capacity of this scalable, resilient TCP/IP-based infrastructure was also a decisive factor.

The team supplied Simplex 4100ES fire alarm control units, TrueAlarm ID Net sensors, TrueSite Workstation

(TSW) central graphical command centers, and touchscreen network display user interfaces.

The customer chose the Simplex system after a successful proof of concept was conducted. Advanced ES Net capabilities and high-speed performance were the key differentiators that helped to drive this decision.

Another significant factor in the selection of the Simplex system was the power and flexibility of the TrueSite Workstation (TSW). The TSW touchscreen network display user interface supports up to 250,000 points and can manage up to 687 network nodes.



Case study

LEARNINGS

This project demonstrates how an IP-based network can deliver speed, power, and flexibility for customers.

ES Net is a high-speed, high-capacity platform with a wide range of media support and excellent reliability. This helps facilities to achieve greater levels of efficiency for the installation, operation, and maintenance of the network.

ES Net from Simplex also provides advanced diagnostic tools for active system maintenance. This means easier commissioning, and the ability to effectively pinpoint network performance and connection issues to improve uptime and deliver superior support.

ES Net also makes managing and maintaining fire and life safety networks more efficient. The ES Net Data rates of up to 100 megabytes per second allows technicians to upload the necessary programming to all control units on the network within minutes - and all from a single

location. This reduces the loss of time and inconvenience necessitated by traveling to each control unit during upgrades and maintenance, which minimizes disruption to the facility.

ES Net's increased memory capacity and broader bandwidth can also improve uptime and help ensure consistent performance. It also means capacity to easily support future expansion and enhancements.

Coordinated teams make for shared success

The success of this project was largely attributable to the seamless cooperation between teams from Johnson Controls and the customer. The final system designs included more than 90 control units, 30,000 sensors, and meets international life safety code standards. By working together on the strategy and execution

of this project, a strong relationship was forged and Johnson Controls is now a preferred business partner for the facility. This is a significant vote of confidence by the customer as they had been using another brand of fire detection system for more than a decade.

The Simplex system was also integrated with the facility's Metasys® building automation system, creating a comprehensive, Integrated Building Management System for facility.

The project was completed on time while meeting all desired international standards. The fire detection system also delivered on the customer's priority of creating an outstanding user experience through ease to use, centralized management consoles, touch screen annunciators, high reliability, and extremely energy- and space-efficient equipment.

For more information on fire and life safety solutions for your facility, go to www.simplex-fire.com



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