CASE STUDY

Hurghada International Airport
Egypt

Mircom®

Hurghada International Airport, Egypt
(Artist rendering)

At a Glance

Fire Detection and Mass Notification installations must be carefully planned. Mircom worked as a strategic partner with the Hurghada International Airport team to provide an intelligent Fire Detection & Mass Notification solution. Mircom's solution delivered efficient building integration, stability and connectivity.

Project Background & Scope

The city of Hurghada is a major tourist hub and resort town off the coast of the Red Sea. As a result, the city boasts Egypt's second busiest airport after Cairo International Airport - the Hurghada International Airport.

Hurghada International Airport was initially constructed in the 1980s by repurposing a former military airport. Since then, Hurghada airport has undergone a series of structural advancements. The most recent and most significant update was the addition of a new terminal to the airport in 2014. The Egyptian government undertook the expansion with the goal of increasing tourism in the area, at a cost of over $300 million USD.

Today, the airport is serviced by two terminals. The new terminal has a total area of 92,000 square meters on 3 levels. The departure hall has 72 check-in counters, 20 departure gates and a duty-free arcade. The airport accommodates approximately 7.5 million passengers per year and has 38 airplane docking stations. When it came time to install fire alarm and control services, the project coordinators selected Mircom's fire technologies to protect their new facility.

For Mircom, this project represents the first large scale operation in Egypt. Specifically, this is the first Egyptian project to include FleX-Net, OpenGN, BACnet, and INX-10A.

Challenge

At the outset, this project presented a unique challenge because the system required the display to be shown in Arabic. Additionally, the project owner had very specific requirements and sequences that they wanted implemented. For example, the owner requested that regular activity on the printout should appear in one color, while any activities that triggered alarms needed to be printed in red. Mircom engineers were able to modify the protocol logic of the FleX-Net system, ensuring all the requirements were met. This demonstrates the power and customizability of the FleX-Net system.

The Mircom Solution

Mircom engineers were able to overcome these obstacles by creating clever engineering solutions. Writing advance protocol logic for achieving the NFPA +VE Sequence as well as writing advance protocol for monitoring normally close contacts of firefighting, transformed the system to meet the buyer's requirements. Additionally, the firmware was modified to comply with the Arabic display feature requirements and the request for color coded alarm activity.

Furthermore, any issues that had the potential to arise in the future were avoided by installing the system using native BACnet protocols and OpenGN. Mircom also provided comprehensive training for our Engineered Systems Distributor (ESD) for the Integration with BMS using BACnet protocols and for commissioning the OpenGN solution to ensure successful management of the technology.

Benefits and Value Added

Mircom products were chosen over those of the competition because the FleX-Net solution is able to support an Arabic display. FleX-Net also supports a variety of other languages, including standard English and French. Technical considerations which placed Mircom above the competition include the fact that Mircom's FleX-Net system uses native BACnet technology and houses a BACnet Ethernet port. This results in standardized coding language. The Ethernet port eliminates the need for additional hardware, as opposed to competitor systems which require external gateway boxes to operate BACnet.

FleX-Net has various component parts, including OpenGN, the collateral software package developed by Mircom. OpenGN offers a 3-Dimensional view of the premises, which was an advantage for the client. Furthermore, FleX-Net is a fully integrated UL listed fire alarm and voice evacuation mass notification system. Mircom systems are 100% manufactured in Canada and satisfy the UL product safety requirements.

In order to ensure the system continues to operate without issues, an innovative fan/damper display was created, which is integrated with the system. This damper display can act automatically; however, it was installed to allow for manual override control of the smoke control system or the damper and pressurization fans. For increased security, FleX-Net can support up to three levels of password protection. This unique feature allows the installer to determine what functions are accessible at each password level. If the installer makes a mistake, the FleX-Net system has added protection in the form of "hot swap" support. If a mistake occurs while programming a new configuration or the owner is not satisfied with new configuration, hot swap allows the user to immediately return to a stored version of the previous configuration.

It was crucial for our client that security is constantly in operation at the airport. The FleX-Net system was a perfect fit for the product requirements because FleX-Net panels remain online even while loading new configurations. This means the building remains protected even when changes are being implemented. In summary, Mircom products were chosen for the high levels of sophistication, control, and customization which set them apart from the competition.

System Summary

- FX-2000-12N / ECX-0012 / BB-5008 / DOX-5008MR / CCH-5008 / FX-2003-12N / BBX-1024R
- ALCN-792M / ALCN-792D/ FOM-2000-SP / SGM-1008A / FDX-008 / UDACT-300A / RAX-1048TZ / IPS-2424
- INX-10A/ OpenGN / MGC-LIC-BACNET
- MIX-2000 Series field devices
- MIX-M500 Series field devices
- Beam detectors BEAM200 and Duct detector DNR
- MS-710ADU

Installation and Team

The installation of the project spanned a total of four years (2011 - 2015). There were no significant issues or delays during installation, and the successful completion of this contract was a result of cooperation between Mircom and TECO Telecommunication Engineering Consultants. The team included Mircom Engineered Solutions Distributors (ESD), 5 engineers and 10 technicians, as well as installation and technical support assistance from the Mircom Global Head Office.

Conclusion

Mircom's mission is to deliver solutions that make buildings worldwide safer, smarter, and more livable. Mircom worked as a strategic partner with the Hurghada International Airport team to deliver a state-of the-art Fire Detection & Mass Notification solution. The successful completion of the Hurghada Airport project has resulted in the approval of Mircom products by the Dar El Handasa, one of the biggest engineering firms in Egypt.

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Safer • Smarter • More Livable Buildings

About the Mircom®

Founded in 1991, Mircom is a global designer, manufacturer and distributor of Intelligent Building Solutions. Reaching customers in over 100 countries worldwide, Mircom's portfolio includes: fire detection & alarm, communications & security, mass notification, building automation and smart technologies. Mircom's vision is to make buildings worldwide safer, smarter, and more livable.

Our global network of dedicated Sales and Service Offices, known as Mircom Engineered Systems, allows us to be a full solution provider. Through Mircom ES, we're able to provide and fully service our line-up of innovative and advanced solutions which are scalable to satisfy diverse user demands, from small & mid-size buildings to the world's most complex applications.

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