

Integrated System for Airport Resource & Security (ISARS) - Eyes and ears of an airport

Singapore, 25 February 2002 - A sophisticated and well-integrated management system to efficiently monitor, control and manage the myriad of activities that takes place daily throughout an airport, from passenger terminals to the runways is key for airline operators.

Airports are very busy and high traffic areas. At the Changi Airport, for example, 28.6 million passengers used the two terminals in 2000. Trying to keep an airport running smoothly and safely, plus having the capabilities to detect and react to any emergencies or unusual activities is a big challenge. ISARS, or Integrated System for Airport Resource and Security, developed by Singapore Technologies Electronics (ST Elect) provides the solution for the seamless operation of the modern airports. It is a highly integrated and comprehensive infocomm system which enables airport operators to run airport facilities and operations safely and efficiently.

ISARS embodies the key elements of command, control, communication and intelligence geared to meet the needs of even the most challenging, complex and modern airport.

Comprising state-of-the-art technologies and applications, ISARS provides airport operators with the ability to monitor and efficiently operate a modern airport for the benefit of passengers, airlines and service providers.

ISARS will achieve this while keeping the airport premises safe and secure from intrusions and anomalies. Nothing escapes ISARS. It is connected to all communications and security systems in the airport, and is thus able to provide the benefits of real-time information to operators on happenings in the airport passenger terminals and surrounding premises.

ISARS is the sophisticated integration of a number of solutions or sub-systems.

The brain and the heart

At the heart of ISARS is a sub-system called Airport Resources and Activities Monitoring System (ARMS) - a command and control system that provides real-time information on all activities going on in an airport. ARMS will help operators activate the appropriate responses to situations immediately. In a crisis, vital resources such as airport personnel and equipment can be quickly deployed to meet the demands of the

situation. ARMS comprises a modern scalable hardware and open architecture software. It is thus able to cater to future needs such as the expansion of airport facilities and operations.

ARMS can be connected to existing airport systems such as a flight information display to provide real-time information. It is also capable of producing customised reports that are tailored to the specific requirements of the operator.

Plugged In

Seamless communication is the lifeblood of an airport. Keeping airport communications and management personnel plugged in to the communications network through all types of communication tools is the SuperneT Integrated Communication System. A sub-system of ISARS, SuperneT allows control and management personnel the flexibility of communicating via various means of voice and data channels. So whether it is via conventional walkie-talkies, wireless and wired local area networks, mobile phones, public address systems or desktop telephones, the communication links are established via a one-touch operator terminal.

Aircraft maintenance staff, security staff and flight liaison officers, who may be inspecting or maintaining aircraft, or on the move, can be kept in the communication loop through devices including mobile infocomm appliances such as the Ceteon, a PDA-like device equipped with the latest *Bluetooth™** wireless connectivity.

Ceteon is also developed by ST Elect.

Other key systems supported by SuperneT include VSAT (very small aperture terminal) satellite communication equipment and Microwave Digital Radio systems for remote communications access.

Tight security

Providing adequate security is a vital aspect of any airport management as any security breach or loophole will impact the safety of passengers and airport users alike. On the other hand, an excessive implementation of security measures may hamper smooth operations for everyone.

ISARS is designed to meet the security needs of the modern airport.

SecurNet, an intrusion alarm and access control sub-system of ISARS, can be integrated with biometrics-enabled readers for enhanced access security. It is an integrated security management system that controls and manage a wide range of high-tech security sub-systems such as Closed Circuit TV systems, door interlocking systems and metal detection systems. SecurNet protects against intrusion and attacks on highly sensitive airport facilities Cetrac™ Video-based Detection System can be a prime component of an airport

management system, helping in security management. Using video-based, automatic detectors, the Cetrac™ system is able to detect any unauthorised entry to restricted areas of the airport and its runways.

Capturing video signals on a central computer monitoring system at the control centre, the system will immediately alert the airport operator of intrusions.

Comprehensive Solution

ST Elect has the leading technological and integration expertise to make ISARS a comprehensive airport information and resource management offering. This expertise encompasses the latest hardware and software technologies that integrate various advanced communication devices and security sub-systems. In short, ISARS is the most comprehensive solution that will empower airport authorities and operators to oversee and manage complex day-to-day operations efficiently, safely and securely.

Training Solutions

ST Elect's capability in providing simulation training solutions means that it can provide a truly comprehensive solution to airport operators. It has designed and developed Asia's first Networked Fixed Wing Flight Simulator, the Air Distributed Mission Trainer (ADMT). The ADMT networks one re-configurable cockpit mock-up with two role-player 'Generic Flight Stations and an Instructor Station on a local area network. Integrated with the system is a high-end image generator providing high fidelity satellite-based visual database imagery of one metre resolution, displayed through a revolutionary 360 degree visual display system. The ADMT demonstrates the latest in simulation technology incorporating the international HLA standard. The system is designed to integrate with other Distributed Mission Training operations allowing air, land or sea forces to train, rehearse or engage in virtual battle scenes as a combined force.

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