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Case study

Oman Airports
Duqm, Salalah & Muscat International

3 Oman airports, 1 access control security infrastructure

Systems Installed:
CEM Systems AC2000 Airport access control

Number of doors secured:
6,000+ doors/locations secured throughout all three airports

CEM Intelligent reader/controllers installed:
- S610e DESFire readers
- S700 IP readers
- S610f fingerprint readers
- emerald terminals & emerald fingerprint terminals
- CEM portable card readers
- eDCM 300 door controllers

Number of cardholders:
30,000+ DESFire smart cards

Airport Systems Integration:
- Oman Airport's Operating System integration for centralised maintenance fault finding & resolution
- FFT Cams Perimeter Detection Interface

Requirement

Oman Airports manages and operates all civil airports in the Sultanate of Oman. As a result of the growing aviation sector in the Middle East, Salalah, Duqm and Muscat International airports were all recently redeveloped with new state-of-the-art terminal facilities and technologies.

To protect Oman Airport's growing number of passengers and new hi-tech terminal buildings, Oman Airports required an advanced access control solution that not only incorporated the latest advances in technology but also had proven resilience within the aviation industry. With 30 years' experience of securing airports around the world, the CEM Systems AC2000 Airport security management system was the ideal match.

"The flexibility and high quality offered by the CEM AC2000 security management system was a key factor in its suitability for Oman Airports. Using one single airport renowned access control provider and standardised intelligent CEM hardware across our three airports, we believe we have set the standards for seamless, best-in-class airport security management within the Middle East"

Ali Baqheri
Head of Security Systems,
Oman Airports.

The power behind **your mission**

Johnson Controls

Solution

As the largest airport in Oman, Muscat International's upgrade was a landmark $1.8 billion expansion project. Phase one involved the construction of a new state-of-the-art 580,000 sqm Terminal 1 building, which was officially inaugurated for operations in March 2018.

CEM Systems AC2000 Airport

"Oman Airports required a proven, fully integrated security solution to secure Muscat Airport's new hi-tech Terminal 1 building, as well as a number of its external peripheral buildings. At the same time we were also awarded the contract to secure the new Salalah and Duqm Airports in Oman. This allowed all three airports to use the CEM Systems AC2000 Airport Edition access control system and share a commonality of security infrastructure for operational excellence. We congratulate Oman Airports in their achievement and are delighted to be part of such an important leading infrastructure project for the development of Oman"

Philip Verner
Regional Sales Director, Security Products, Johnson Controls.

Intelligent Readers

CEM Systems range of intelligent IP card readers with integrated controllers (S610e, S700 readers) were installed throughout Oman Airports to provide the highest possible level of on-board smart card technology. CEM intelligent card readers additionally feature a large internal database for offline card validation and can store up to 200,000 cardholder records and 50,000 transactions offline. This ensures zero system downtime, prevents any loss of transaction data and delivers the highest possible level of system reliability within airports.
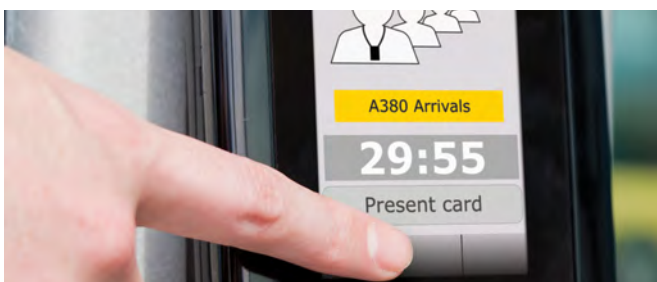

Over 3,000 CEM IP card readers were installed throughout Muscat Airport's new Terminal 1 to protect airside and landside locations, including 45 arrival and departure gates, 29 jet-bridges and 82 immigration counters. A large number of outlying annex buildings (spread out over 30,000 m2) were also secured with CEM intelligent card readers. These included a new 97m high Air Traffic Control (ATC) tower, aircraft hangars, cargo and crew facility buildings and the new pivotal headquarters building for the Public Authority for Civil Aviation (PACA).

emerald access terminals

CEM Systems emerald touchscreen terminals have also recently been chosen by Duqm airport for heightened security.

emerald is a combined access control card reader and controller featuring fully integrated Voice over IP (VoIP) intercom, onboard Power over Ethernet technology and a range of smart airport applications and operational modes, all in one single, powerful terminal.

Integrated biometric & access control solution

For areas of heightened security, over 1,300 CEM fingerprint card readers (S610f & emerald fingerprint terminals) have also been installed throughout all three Oman airports. As an all-in-one advanced IP card reader, controller and integrated biometric solution combined, CEM fingerprint readers uniquely provides three layers of security (card, PIN and biometric verification) via one hardware device and one integrated software enrolment process.

This eradicates the need for a separate biometric enrolment solution, provides a quick and accurate biometric read time and ultimately creates less biometric verification errors at the door/gate.

Gate room management & controlling passenger flow

CEM Systems intelligent IP readers also go beyond security by helping airport operations. Intelligent readers are used to enable air-bridge monitoring, provide check-in-desk enabling, control baggage belts and assist with airport passenger flow and gate room management.

Intelligent IP readers critically provide Oman Airports with aviation specific door modes such as 'Passenger mode' which enables the efficient management of gate rooms for departing and arriving passengers.

Passenger mode controls the open times of single or interlocking doors, ensuring Gate Room doors are opened or closed depending on the configuration set for a specific flight. The user-friendly LCD screen on CEM card readers effectively acts as a smart information point for ID staff and flight agents and allows staff to easily manage the Gate Arrivals process on the ground.

Portable card readers

CEM Systems S3040 portable hand-held readers uniquely protected Muscat International Airport during its initial construction phase in December 2014. Portable readers enabled ID card validation at temporary airport site entrances and gates, which at the time of construction had no power or comms. Oman Airports now utilise portable card readers to enable random ID checks on personnel throughout all three airports.

Airport specific access control

Designed specifically for airports, CEM Systems AC2000 Airport security management system provides powerful aviation-specific access control throughout airside and landside areas. Using a range of powerful AC2000 Airport software applications, Oman Airports benefit from sophisticated ID badging, airport visitor management and high levels of airport systems integration.

Airport systems integration

CEM Systems open architecture integration tools successfully enabled the AC2000 access control system to be seamlessly linked with other airport security systems including video, perimeter detection and Oman Airport's central 'Airport Operating System' for the resolution of

maintenance faults. This ensures that system maintenance faults and alarms are dealt with promptly, efficiently and with full accountability.

Smart Airport ID Management

To provide the highest possible level of smart card security to over 30,000 authorised card holders, all three Oman Airports utilise highly secure CEM DESFire smart card technology with multiple layers of encryption. Oman Airports use the CEM Systems AC2000 VIPPS (Visual Imaging Pass Production) application to successfully manage airport pass applications and biometrics.

The AC2000 Visitors application also provides a powerful tool for Oman Airports to monitor and control ID card access for visitors and temporary airport staff. Information such as 'name of airport sponsor' can be recorded and once visits have been completed, cards can then be recycled, creating efficiency savings within the airport ID centre.

The future

Moving forward, CEM Systems will continue to work together in partnership with Oman Airports and their chosen system integrators as all three airports move into their next development phases. We understand that airport security needs and legislation requirements change over time and we will therefore remain flexible to help meet their evolving project needs.

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For over 30 years CEM Systems AC2000 access control systems have been securing airports around the world.

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