The Museum
The Museum of Islamic Art, located in Doha, Qatar, houses Islamic art produced across three continents over more than 1,400 years. It is a standalone structure built on the water in the Doha harbour, on a 64 acre (260,000m2) island, 195 ft (95m) off the Doha Corniche. The museum has a total area of 45,000m2, and contains artwork in a diverse array of media, including ceramics, manuscripts, metalwork, glass and textiles.

Business Challenge
The Museum of Islamic Art required a system that would not only guarantee the security of its artwork, with a particular emphasis on a variety of sculptural objects, but would also protect it from dangerous environmental change given the museum’s unique location:
- Temperature/ humidity of artworks and their environments had to be monitored to 0.1 degrees celsius and 0.1% relative humidity.
- Three-dimensional artworks in over 500 display cases had to be protected.
- RFID coverage in the Educational Wing and all back-of-house areas had to be provided.
- Our system had to integrate fully with the existing Security Management System (SMS).

Solution
In partnership with Wavetrend, Fortecho developed new temperature / humidity tags and pressure-sensitive vitrine bases to meet this unique challenge.
- Specialist Wavetrend tags supplied to monitor temperature and humidity at exact location of each artwork.
- Developed new analytics and warnings for micro-climate control.
- Pressure-sensitive bases designed for display cases. Sensitive to changes as minute as 20 grams.
- Vitrine tags detecting open/ close vibration were introduced.
- 120 Wavetrend RFID readers were installed covertly in wall recesses. System installed on fibre-optic security network.
- New RFID antenna filters introduced to prevent external radio noise.
- Entire system is integrated with external CCTV and sea bound radar detection via Synectics SynergyPro Software.

Results
- Enhanced security of works of art and invigilators from attack, theft and dangerous environmental change.
- Detailed environmental information to permit close monitoring by conservators and curators.
- Protection and safeguarding of individual 3D objects achieved by display case design.
- Instant and precise location and artwork information.
- Electronic historical log of all alarms.
- Potential to reduce expensive, manned security.

Customer Comments
“Designing the comprehensive security plan for the MOIA involved ensuring both the security of the artefacts and the safety of staff and visitors, whilst providing an uninterrupted aesthetic experience. The various systems installed in the museum and their flexibility gives the Security and Safety Department the ability to adjust its approach according to the Risk Profile at any time.”

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Head of Security & Safety, Qatar Museums Authority