MRDA improves Hajj safety and security

Client name: Makkah Region Development Authority (MRDA)

Industry: Public sector

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Challenge
- Reduce overcrowding on one of the world's most intensively used metro lines during the Hajj
- Increase pilgrim safety and security
- Manage the workforce

Solution
- 24×7 Crowd Control Command Centre to monitor the event and provide real-time data and analytics
- A multiuser technology system supporting English and Arabic
- Comprehensive training for employees

Results
- A world-class safety, security and crowd-control system
- A mobile app providing Hajj and Umrah pilgrims an end-to-end experience
- A system that gathers, analyzes and shapes 23 million data points into actionable insights

MRDA improves Hajj safety and security

Nearly 2 million pilgrims visit Islam's holiest sites for five days during the Hajj, which occurs within the last month of the Islamic calendar. Only operational during the Hajj pilgrimage, the Al Mashaaer Al Mugaddassah Metro Southern Line (MMMSL) shuttles 72,000 passengers per hour at peak periods between holy sites such as Masjid al Haram, Mount Arafat, Jamarat and Mina. The challenge that Saudi Arabia's Makkah Region Development Authority (MRDA) faced was to keep the crowds moving and free from any obstructions, improve their safety and security, and monitor the 7,500 employees who oversee operations at their stations and platforms.

MRDA called on DXC Technology to create a "smart crowd" solution — a world-class pilgrim safety and security system. The sheer size and scope of the challenge required a forward-thinking plan based on an innovative approach. Real-time information would be crucial to identifying preventive measures and speeding immediate emergency responses.

Crowd management

DXC designed and implemented a multiuser technology solution that included a dual-language application in English and Arabic to support staff management, as well as a pilgrim dispatch system. DXC established a 24×7 Crowd Control Command Centre to monitor the event and provide real-time data and analytics updates to MRDA and its staff, who received detailed training.

MRDA deployed thousands of civil servants, security personnel and medical professionals to strengthen crowd management throughout the pilgrimage season. MRDA also contracted personnel to manage equipment and the safe transfer of pilgrims using the metro system.

The key objectives of the dual-language Staff Management and Pilgrim Dispatch Application Systems are to:

- Capture attendance and locations of Hajj station staff
- Track Hajj group leader locations
- Provide station staff and group leaders with key functions such as sign-in and sign-out (registration for working hours), train schedules, staff rosters and messaging
- Enable panic alerts to first responders in the event of medical, fire, flood, derailment or other emergencies
- Facilitate communications among staff, supervisors, the Crowd Control Command Centre and the Station Control Centre
- Manage and improve the accuracy of staffing and recruited number of employed operation staff provided by local and international subcontractors for duty on various tasks at metro stations

"It was an important responsibility and a privilege to facilitate this pilgrimage for millions from around the world. We believe that as technology evolves, there are always new systems that we can adopt," says Abdelmoula Benabida, chairman of the managing team at the Al Mashaaer Metro Project, MRDA. "Last year we improved safety by implementing technologies that allowed for the efficient movement of 340,000 out of the 1.8 million pilgrims that visited for Hajj.

For the first time, with the Crowd Control Command Centre, advanced analytics and mobile applications, MRDA management could easily track movement schedules and staffing levels, and issue timely notifications for critical changes or incidents."

Capabilities for the future

DXC designed its system to be flexible and scalable. New enhancements will facilitate ground communication and collaboration across sites in Makkah to meet MRDA's projected needs for the next decade. Combining global experience with its technology-agnostic approach, DXC brought best practices from hundreds of cross-industry engagements to deliver a seamless, state-of-the-art solution.

DXC's unique expertise can be applied to crowd-management needs across the globe, improving safety and security through a game-changing combination of leading technology, science and proven processes.

"Applying solutions-oriented thinking and innovative technology to enhance a traditional experience calls for a delicate balance, and we are proud to have partnered with the MRDA to provide the benefits of cloud, big data intelligence and analytics to help improve the safety of millions of pilgrims visiting Mecca," says Maruf Majed, vice president and general manager for the Asia, Middle East and Africa (AMEA) region at DXC. "DXC teams in Malaysia, Singapore, Saudi Arabia and UAE [United Arab Emirates] worked around the clock for eight weeks to complete the implementation of this high-visibility project, including the early phase of the infrastructure setup through implementation and delivery."

DXC has since launched a mobile app for pilgrims called "iHajj" for iOS and Android. Key features include detailed schedules, the Holy Quran, prayer-timing alerts, Kaaba direction, a pilgrimage journey tracker, the ability to receive du'a (supplication) requests from family and friends, and augmented reality to help find nearby activities.

About DXC Technology

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