

# Design, Supply and Installation of Radar Towers for SMR Systems

**Client:** ADB Safegate

**Location:** Abu Dhabi International Airport

**Scope:** Design, supply and installation of radar towers, radomes, and equipment shelters for Surface Movement Radar systems

## **Brief:**

ADB Safegate was contracted by Abu Dhabi Airports Company (ADAC) to provide Surface Movement Radar (SMR) and Multilateration (MLAT) surveillance systems within Abu Dhabi International Airport.

Jaggard was selected to design, supply, and construct 4 radar towers for mounting of Terma SMR antennas. Each tower was to be supplied with a protective radome and ground mounted technical equipment shelter.

Towers were to be designed and built to international design and construction standards, whilst meeting Terma's performance specification requirement.

## **Scope of Works (SOW):**

Design, Supply, and Construction of 4nos SMR Antenna Towers and reinforced concrete foundations.

Design, Supply, and Construction of 4nos X-band, Sandwich type, Radomes.

Design, Supply, and Installation of 4nos insulated, GRP, technical equipment shelters.

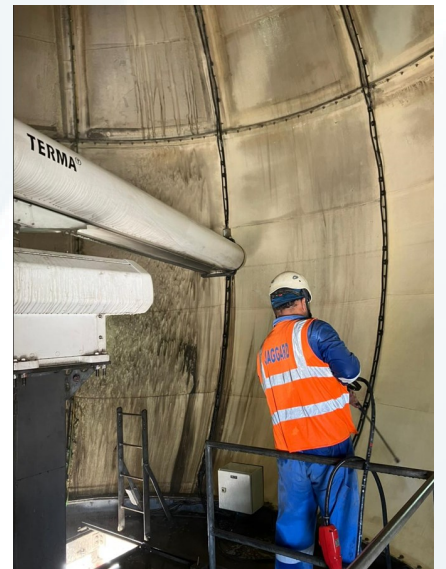
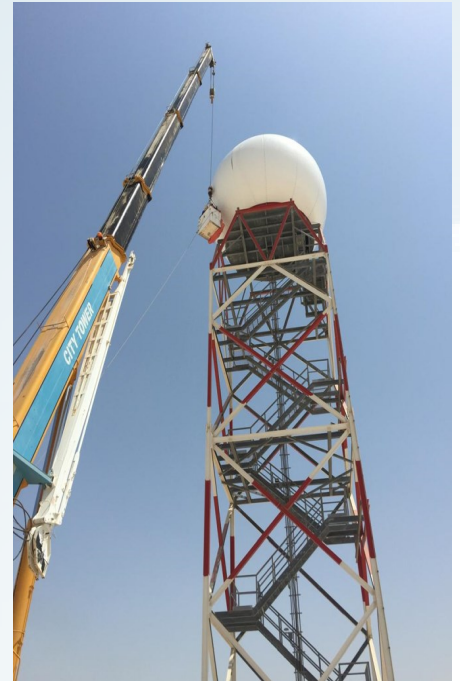
## **Constraints:**

### Design specifications

Due to the specified locations and elevations within the airport, the antennas required a large, unobstructed, vertical field of view with significant clear 'down-angle' required. This presented new design challenges.

### Air-side operations

Construction sites were located at both airside and landside locations within the airport boundary. Airside locations were in near proximity to operational runways of an international airport. This presented significant challenges to access, safety, and lifting operations.



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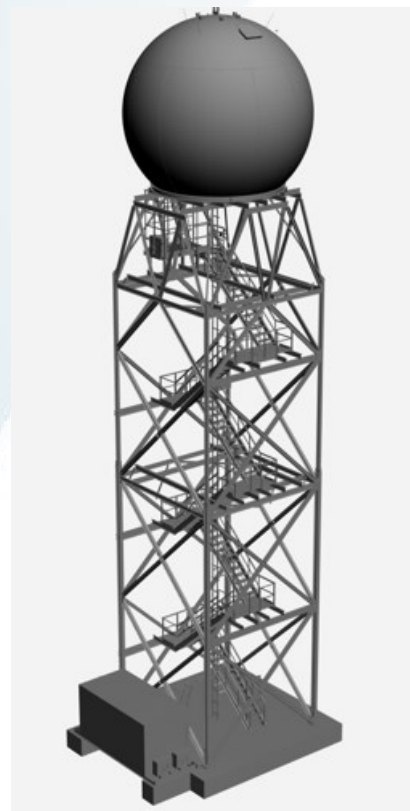
## Method:

Jaggard undertook tower design and detailing and fabrication in the UAE.

Radome structural design and manufacturing detailing was undertaken by Jaggard, supported by our consultant partner for EM/RF design.

Equipment shelters and electrical power systems were designed by Jaggard and fabricated by a local manufacturing partner.

Site construction, planning, health and safety compliance and site management were undertaken by Jaggard.



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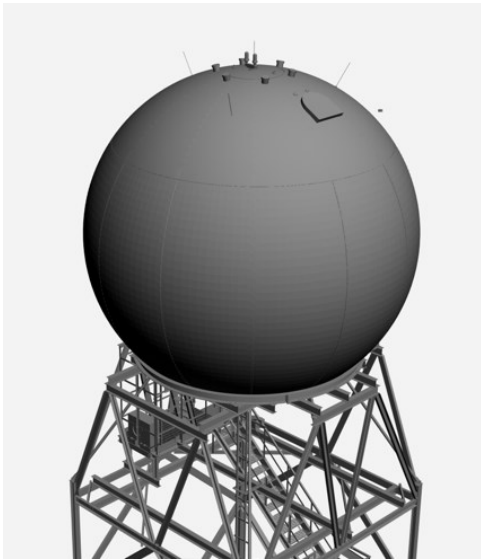
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## Result:

To meet the antenna's field of view requirements, Jaggard developed and implemented a new tower design. Drawing on our knowledge and experience of radar tower site integration, Jaggard's team successfully met the challenges and completed all site installations and commissioning. The towers are operational, providing ADAC with aircraft and vehicle movement data to ensure safe ground operations.



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