



# Abu Dhabi International Airports Expansion

## Preliminary Detailed Geophysical Survey of Abu Dhabi International Airport prior to expansion works

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Abu Dhabi, United Arab Emirates  
Started in 2011, 24 months



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Based on the important growth of its population during the past decade, the emirate of Abu Dhabi has launched an impressive Urban Development Plan ("2030 plan") aimed at the development of infrastructure, increasing housing capacity and tourist attractions for the coming 20 years.

Based on the double digit growth over the past 5 years, in 2008, Abu Dhabi Airports Company (ADAC) launched important and massive expansion projects for several airports around the Emirates. Under the construction eye of Mid Field Complex (MFC) capacity will increase by 20 million passengers per year, making Abu Dhabi International Airport one of the main connecting hubs in the Middle East.

In Al Ain, the 2nd international airport of the Emirates is aiming to double its current capacity.

The grounds of Abu Dhabi Emirate are known to be highly honeycombed, especially in the areas where layers of limestone are present. These cavities can have long term detrimental effects on structures built above them, such as settlement or in severe cases, collapse. In order to prevent any future problem, ADAC and their consultants requested the execution of preliminary geophysical surveying campaigns aimed at detecting any ground anomalies prior to starting the construction of the future terminals and runways.

In this context, SOLDATA, Abu Dhabi Branch, was awarded, in June 2010, an important contract to carry out a full geophysical survey of the grounds to 20m depth by mean of MAWS, ERT and Microgravity, completed by geotechnical investigation to establish a map of risk for several airports allowing consultants and project managers to take appropriate action before the beginning of the construction works.



**Supervision Committee for Expansion of International Abu Dhabi Airport**



### Legends

1. MASW team finalising a set up position at Abu Dhabi Airport.
2. On going ERT survey at Al Ain International Airport
3. Detail of MASW equipment (Car Mounted Hammer)

### Key figures

- MASW: 2,500pts using streamer of 24 geophones and electrical mounted hammer

- ERT: 1,000pts using 2 terrameter LS, 64 electrode-lines in roll-up.

- Calibration Boreholes: 46 Nos.

- MG: 2,500pts using 1 CG5 equipment.