CASE STUDY

ABU DHABI: ONE-STOP SOLUTION PROVIDER FOR TELECOMS INFRASTRUCTURE

Over the past two years Datwyler has been acting as general contractor for the cabling of thousands of new offices, shops, apartments and villas on Al Reem Island and in the Rawdhat district of Abu Dhabi.

Al Reem Island is a residential, commercial and business project in Abu Dhabi on the north coast of the United Arab Emirates. The new neighbourhood, developed by Sorouh (Shams Abu Dhabi), Reem Investments and Tamouh, is being created on a natural island in the Persian Gulf about half a kilometre off the coast. The island is planned to provide 6.5 million square metres of residential and working space for around 180,000 people. The total cost is estimated at 30 billion dollars. This gigantic project has attracted international interest, not least due to the fact that it is one of the Abu Dhabi's first free trade zones.

The Rawdhat development area in Abu Dhabi is "modest" by comparison: it will comprise 18,000 residential and business units covering approximately 800,000 square metres and costing around 5 billion dollars.

Datwyler Middle East was appointed general contractor for the telecoms infrastructure of the buildings in both projects. Amongst other things this includes structured premises cabling for data, voice and TV / video, fibre optic backbones, home automation cabling, the installation of optical network terminals (ONT) and some video monitoring systems (CCTV).

The contract was awarded by the Emirates Telecommunications Corporation (Etisalat) and UT Technology, the authorized subsidiary of Etisalat acting as Telecom Authority & Service Provider in Al Reem and Rawdhat.

Datwyler is responsible not only for planning, supplying and installing the telecoms infrastructure for these projects, but also for overall project management including cost control. On top of this there is network commissioning and acceptance as well as reporting and documenting the systems installed.

Numerous high-rise buildings cabled

Over the past two years Datwyler has completed projects in 17 buildings on Al Reem Island, including the Reem Diamond, Marina Bay, Amaya Towers, Mangrove Palace and Sky Towers, several major commercial properties, the Paragon Bay Mall and one villa. By August 2013 Datwyler had handed over seven multi-storey residential blocks in Rawdhat.

These projects included structured premises cabling for 1160 homes, when around 430 kilometres of copper data cable and 75 kilometres of singlemode fibre optic cable were installed. The ONT installations – always including patching and measuring the fibre optic backbone – even took in more than 2500 apartments in 12 buildings, involving the testing of around 9700 fibre optic links.

The tender specification stipulated horizontal level structured cabling comprising Category 6_A cables and connecting technology, data outlets – some in floor boxes in the

offices – and wall-mounted housings with signal converters for fibre-to-copper signal conversion. Twin-fibre optic cables were used to connect the apartments to the cabinets in the floor telecom rooms (FTR). Each FTR cabinet is connected to a dedicated 42 U rack in a main telecom room (MTR) using riser fibre cable with 12 to 48 fibres depending on floor capacity. Patch cords were provided at FTR for linking twin fibre with riser fibre cable and at MTR for linking riser cable with the service provider's racks. All the connections are labelled at both ends and all the fibre optic links were tested prior to handover.

Datwyler used Category 6 cable, the appropriate connecting technology and separate wall-mounted enclosures for cabling the home automation systems – monitoring and control panels, motion detectors, thermostats and equipment for shading and access control. Here again all the connections were labelled and tested.

To date Datwyler has implemented CCTV monitoring system in the two PoP rooms on Al Reem Island, one of them being in Sky Tower.

Keys to success

Datwyler has always been able to complete the projects implemented to date within the time specified and within budget – despite the challenges typical of this size of construction site. These challenges include, for example, architectural modifications at short notice and delays caused by other construction trades.

The two most important factors for success were continuous design optimization, material and resource planning as well as close coordination with the clients, the other firms operating on site and the respective installation partners.

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