Aprisa XE delivers always on, over-water connectivity to remote islands

MOBILE OPERATOR
MALDIVE ISLANDS

How could a leading telecommunications operator deliver reliable services to tropical island resorts when faced with harsh environmental challenges and rigorous planning constraints? By choosing the Aprisa XE point-to-point microwave radio, with its unbeatable combination of easy install, lightweight infrastructure and reliable performance, even over water. The operator is now successfully delivering mobile cellular and Internet services to many islands throughout the Maldives.

THE UNSPOILT LANDSCAPE OF THE MALDIVES, REQUIRING A LIGHTWEIGHT INFRASTRUCTURE SOLUTION

APPLICATION AND DEPLOYMENT REQUIREMENTS

The Maldives consists of over 1,000 islands in the Indian Ocean, with an average ground level of 1.5 metres above sea level. The highest point in the country is only 2.3 metres above sea level. More than 200 of the islands are now inhabited and communications infrastructure is rapidly expanding throughout the nation.

A 4RF customer, a leading Maldivian telecommunications operator, wanted to upgrade and extend its network to include 3G mobile backhaul and Internet access for the resort islands. The main challenge was to provide reliable over-water connectivity to the resorts, despite the area suffering from severe tropical storms. In addition, the island resorts place restrictions on the type and size of the towers and antennas that can be placed on each of the islands due to aesthetic reasons.

NETWORK DEPLOYMENT

Before commencing the project, licensed spectrum had to be acquired for reliable over-water communications to the islands. 4RF worked with the local regulator, the Telecommunications Authority of Maldives, to ensure that appropriate spectrum was available and that the licences could be allocated to the operator.

Due to the fact that the Aprisa XE uses sub 3 GHz frequencies, small lightweight Yagi antennas could be used. These can be erected with the use of a pole mast, unlike higher frequency systems that would need more substantial, and costly, antenna and tower infrastructure. As well as meeting the rigorous planning conditions set out by the Maldivian resorts to keep infrastructure to a minimum, this provides great advantages when operating in an environment that is subject to the monsoon conditions that batter the Maldives during the rainy season. The reduced surface area of the equipment required means that the structure itself can withstand greater wind and storm forces than larger antennas and towers.

Network management was simplified by the fact that the Aprisa XE uses industry-standard SNMP protocols, so management of the Aprisa XE links could be integrated into the company's existing network management platform.

RESULTS

The Aprisa XE is able to address the difficult radio propagation conditions presented by over-water paths and adverse weather conditions while remaining cost effective and reliable. Despite tidal issues and reflection from the water, the Aprisa XE remains unaffected, with high availability.

The operator has successfully increased the capacity of its network without having to fill the Maldives with large unsightly telecom infrastructure. Both residents and tourists alike now benefit from:

- Reliable internet access

- 3G connectivity

- Continuation of service even in harsh monsoon conditions

Multiple Aprisa XE links have now been deployed throughout the Maldives. 4RF is continuing to provide Aprisa XE radios to further expand island coverage.

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For more information please contact
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