



wavecom

communications engineering



Case Study



EDPR - Iberian Peninsula

“The Iberian network implementation was divided in three phases: interconnection of all EDPR wind parks in Spain, interconnection of a wind park of the north and centre of Spain with a park of the north and centre of Portugal; interconnection of all EDPR parks in Portugal.”



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Introduction

Wavecom is an engineering company and telecommunications integrator and expert in radio technologies with highly specialized teams who carried out the implementation of wireless network in the utility EDPR wind parks.

Within the possibility of implementing this technology, a pilot project was launched with the dimension of 6 parks connected to the dispatch centre in Oviedo, which has been successful and resulted in the technology adoption in all the Group's parks in the Iberian Peninsula.

The Iberian network implementation was divided in three phases: interconnection of all EDPR wind parks in Spain, interconnection of a wind park of the north and centre of Spain with a park of the north and centre of Portugal; interconnection of all EDPR parks in Portugal.

With the conclusion of the three projects, the connectivity of all EDPR parks in the Iberian Peninsula with the dispatch centre of Oporto and Oviedo was achieved.

Framework

In 2010, all parks were connected via VSAT or to local operators: low bandwidth, high latency and high OPEX.

The absence of telecommunications with enough bandwidth up to the wind parks and the need to quickly implement a Communication network with adequate performance for the telemetry support motivated Wavecom to present a solution based on wireless technologies. This technology operates on a band exempted from licencing and allows utility to have a private communications network. It also allows continuous connectivity, able to place the information in the hands of the user in real time, thus improving the supply and safety of services.

“The data convergence project answers the network expansion possibility and can be expanded at any moment, depending on Utility needs.”

Solution

The solution implemented by Wavecom was the interconnection of all utility wind parks in the Iberian Peninsula with the dispatch centres located in Oporto and Oviedo. Taking into account the context described, Wavecom proposed a solution based on Cambium Networks equipment, and on the connection of about 140 Sites. The solution also includes using repeater points, negotiated and rented by Wavecom, allowing all equipment to be interconnected.

The data convergence project answers the network expansion possibility and can be expanded at any moment, depending on Utility needs.

Wavecom also supplies 24hx365 support and maintenance to the entire network from its operational centre using its own preventive intervention teams.

In the case of Spain, corrective intervention teams are guaranteed through a local partner present at 8 operational centres spread out in the entire territory and duly trained by Wavecom with regard to the technology implemented.



“...24hx365 support and maintenance to the entire network from its operational centre using its own preventive intervention teams.”

Operational challenge

- Broad band communications supply for approximately 140 wind parks throughout a vast territory and based on the implementation of a private IP network highly resilient and with low OPEX;
- Extreme weather conditions (altitude, snow, ice, wind, solar radiation and high temperatures in the summer);
- Equipment with high MTBF (Mean Time Between Failures);
- Specialized teams to access different maintenance and support Sites;
- Network resilience with at least two different paths from/to each Site;
- Network scalability allowing the operation expansion to new locations.

The Project Numbers

- Installation of more than 150 Radio Links in one year (divided in three phases);
- Use of 29 Repeater points;
- Radio Connections totalling more than 6000 km;
- Maximum connection between Sites 129 km apart from each other - 20Mbps available;
- Maximum bandwidth per Link of 200Mbps;
- Minimum availability of 99.99%;
- Support and Maintenance System - 24 hours x 365 days;
- Redundant Network Topology.



Image of the Iberian Network





Wavecom - Soluções Rádio, S.A.
Cacia Park
Rua do Progresso, Lote 15
3800-639 AVEIRO
Portugal
T. +351 234 919 190
F. +351 234 919 191
wavecom@wavecom.pt
www.wavecom.pt

About Wavecom:

Wavecom was established in 2000 and has three core fields of activity: Wireless Networks and Networking, Unified Communications and R&D.

Our core business consists of the development and integration of telecommunications solutions, specialized in Radio and Unified Communications technologies. The company started its activity as a telecommunications integrator specialized in Wireless, expanding then its activity to the Unified Communications field.

Beside Portugal, the company is also present in Cape Verde and Brazil. Wavecom is the market leader for wireless connections in unlicensed band and has developed the major VoIP project (Open Source) in Europe.

