

Acuicola Marina, Spain

Wireless Broadband Helps Fish Farm Increase Productivity and Improve Security

Acuicola Marina



North America



Central America



Latin America



Western Europe



Eastern Europe



Asia Pacific



Northern Africa



Southern Africa



Offshore

Many businesses around the world face a common problem: how to get broadband connectivity to remotely located offices, warehouses, and factories where little or no telecom infrastructure exists.

About Acuicola Marina Fish Farm

- One of the most important producers of farmed fish in the Castellon region
- HQ - offices and warehouse - situated 3 kilometers inland with fish pools located 10 km offshore

The Challenge

- To provide voice and data connectivity between the offshore fish farm and HQ to:
 - Improve security at the farm
 - Monitor remotely the health, growth, behavior and progress of the fish
 - Communicate instructions to employees at the farm

The Solution

- A point-to-point wireless connection built using unlicensed carrier class NLOS outdoor equipment from Alvarion's BreezeNET B family

The Result

- Wireless broadband solution installed within one day – and at an affordable price
- A network connection that operates in non-line-of-sight conditions and easily covers the 13 km between the fish farm out at sea and the warehouse and offices located 3 km inland
- Network offers the same quality of service as those operating in other less hostile environments
- Improved security at the farm and increased production

While having the same acute need to be connected to the corporate intranet and have the same quality Internet access as urban locations, upgrading the current wired network to these locations is typically impractical - in terms of both cost and time. And the traditional alternative of using a satellite connection is expensive with limited bandwidth and often unreliable coverage.

One such business, the Acuicola Marina fish farm in Valencia, Spain, faced the same remote broadband challenge but with a twist: how to get broadband connectivity to monitor and control its sea-based operations. Located 10 kilometers offshore, the fish farm comprises 32 separate 'pools' which produce 200,000 fish every year.

One of Acuicola Marina's main motivations for broadband connectivity was remote security. Increasingly, unknown boats were being seen near the farm – and this was coinciding with a fall in production.

With 24/7 patrols uneconomical, one solution considered was the installation of a wired closed circuit television (CCTV) system. But the cost of laying fiber across 10 km of sea was also found to be far too expensive.

So Spanish integrator Ralco Networks suggested to Acuicola Marina that a wireless broadband network might provide the answer, and introduced them to Alvarion. Alvarion is the world's largest provider of wireless broadband and WiMAX products having built broadband networks in both urban and rural areas in over 150 countries. Many of these networks have enabled users to get voice and data services for the first time.

Alvarion and Ralco Networks recommended that a point-to-point bridge using equipment from its BreezeNET B family would be the quickest and most cost-effective way to provide reliable services in such a unique and challenging environment.

Customer type: Private network

Country / Region: Spain, Western Europe

Solution: BreezeNET® B

Application: Video, voice and data services



“Our Alvarion network is priceless in its functionality and business impact. We can now sleep easy at night knowing that our farm and fish are well protected from thieves. And the ability to use the same broadband connection to also monitor the fish underwater is an amazing and unexpected additional benefit. Production is up, profits are up - and all as a result of a cost effective network that took only a day to build.”

Tahiche
Lacomba,
Acuicola Marina
CEO

The Optimal Point-to-Point Solution

Alvarion's BreezeNET B is a family of wireless point-to-point bridging solutions that operate in the 5 GHz band and provide an efficient and highly secure way to achieve building-to-building connectivity and backhauling. Representing an ideal alternative to expensive leased lines, BreezeNET B provides an instant link for connecting remote local offices to headquarters, not to mention isolated buildings on campuses and industrial zones. In addition to being easy and quick to build and manage, BreezeNET B is IP67 certified, which means that the equipment is very robust, waterproof, and able to handle intense heat, humidity, and harsh environmental conditions.

Acuicola Marina's Network

Once designed, Alvarion and Ralco Networks installed the BreezeNET link in just one day to connect Acuicola Marina's onshore offices and warehouse to the fish farm. The link easily covers the 13 kilometers distance. Powered by solar, the fish farm side of the link is situated just one meter above sea level and is fully waterproof operating without interruption during stormy weather and rough seas.

Connected to the fish farm network are a video camera and a Wi-Fi network. The camera is outdoors and rotates 360 degrees to monitor the activity in and around the fish farm with day and night images constantly streamed back to the onshore headquarters.

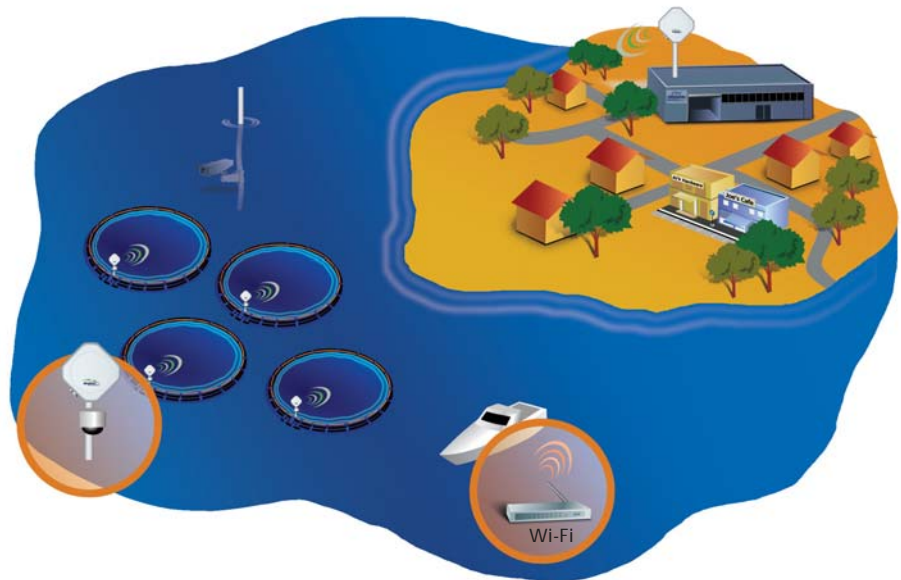
Additional intelligence has also been built into the camera so that unusual activity will be noticed with immediate alerts sent to headquarters.

The Wi-Fi network connects several underwater cameras to allow Acuicola Marina employees to constantly monitor the health and progress of the fish themselves. In addition, the daily fish feeding boat has Wi-Fi equipment enabling it to use the network to send and receive information while accomplishing its tasks. One example is using the information from monitoring the growth of the fish in each pool to accurately distribute the correct amount of food in each pool.

The Result

Thanks to Alvarion technology, Acuicola Marina can monitor its fish farm, both above and below the water, 24 hours a day, 7 days a week. And the mere existence of a monitored CCTV system greatly deterred visits from unwanted strangers and potential poachers. The result is considerable improvements in productivity at the farm.

In the near future, Acuicola Marina plans to expand the network, including putting an underwater camera into each pool for even better monitoring of the fish at all stages of growth.



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