



Regal Springs, Mexico



#### Objectives

- To provide a flexible and reliable wireless platform which can cater for the transmission of voice, data and video;
- To install a solution that is able to reduce manual processes within the company and increase business productivity and the decision making process.

#### Benefits

- The client deployed a reliable and multi-services infrastructure;
- Improved employee productivity with less time spent on manual operations;
- Improved company efficiencies and delivery times of data between production centres;
- Reduced operational costs.

### InfiNet Wireless Implements Cost Effective Solution To Improve And Accelerate The Supply Chain of Regal Fish Farms

Fish farming, or aquaculture, is rapidly becoming the leading method of satisfying food demands in various parts of the world affected by today's global climate. Founded in the mid 1980's, Regal Springs was the brainchild of Rudi Lamprecht, a former United Nation aid worker who was looking for a sustainable food and protein source for the community of Java in Indonesia. Today, the company has farms in Mexico, Honduras and Indonesia and exports to many US and European countries.



In Mexico, all of Regal Springs' facilities are spread out across the country and often located in remote and rural locations. Due to this geographic spread, the company needs a robust communications network to achieve its objectives as a major fish farmer and exporter. As one would expect, such a network cannot realistically be based on a fibre optic infrastructure as it would have required a significant level of investment by the company. Instead, the management team decided to deploy a fixed wireless broadband networks capable of covering large distances and catering for high bandwidth needs. Before InfiNet Wireless was invited to discuss the company's requirements, Regal Springs' legacy wireless platform was seriously lacking in capacity, thus limiting the company's ability to transmit data and video-surveillance streams in real time back to the its control and monitoring centre. This legacy network, deployed by another wireless supplier, simply did not cater for the company's ever-changing needs as the business grew over time, and at times only achieved 20% of the expected performance as stated in the vendor's brochures.

Regal Springs fish farms needed to find a new and cost effective wireless infrastructure which performed better than their current platform, and this had to be done in a short period of time in order to support the company's fast growth. The new solution was specified to work across large distances, mostly in rural areas, removing the manual processes of communication between all facilities, and at the same time solve some of the challenging environmental conditions the company was operating under. Essentially, the company's goal was to deployed a single multi-services platform capable of supporting applications such as video-surveillance, voice and data communications between production areas, back-office and packing plants, while at the same time keeping both capital and operational costs of the system to a minimum level.

## Solution

- A number of base station sectors based on the Mmxb/5X.300.2x200.2x16 product family;
- PtP links based on the InfiLINK XG product;
- A point-to-multi-point platform with repeater stations on the mainland;
- Omnidirectional antennas;
- Solar power in each farm;
- Protection against atmospheric discharges and grounded for lightning.

Due to the limitations of its legacy platform, Regal Springs decided to search the wireless market for other options which needed to be scalable and future-proof. INXITE, InfiNet's partner based in Mexico, is a value added system integrator specializing in wireless communications such as CCTV and wide area networks, and introduced Regal Springs to the InfiNet Wireless brand.

As a part of the initial proof of concept phase, INXITE designed the network taking into account optimum performance through radio planning and network reliability, as well as the geographical spread of the facilities and the environment where these facilities were physically located. Since all the farms were situated on open water, they had to operate via the only available source of electrical power, i.e. solar energy. The InfiNet all-outdoor wireless units were designed with a very low power consumption, often less than 7 Watts for the remote units, and are able to withstand the harshest environments, with strong enough grounding and protection against atmospheric discharges such as lightning.

The InfiNet comprehensive range of products was selected following extensive field trials, with the ultimate deployment based on both Point-to-Point (PtP) and Point-to-MultiPoint (PtMP) solutions. The access layer of the network was based on a number of base station sectors, whilst the backbone and backhauling layer was catered for by several point-to-point links. These links were primarily achieved using the InfiLINK XG family of products, InfiNet's most advanced point-to-point solution capable of achieving the highest data rates and low latency possible, and covering distances of up to 54 kms in rough terrains. The whole infrastructure was easily and quickly scalable and initially achieved aggregate throughputs of up to 200Mbps.

The PtMP portion of the network today provides a very stable platform, connecting all the company's administrative offices, with omnidirectional units used on the fish farms and remote sites such as the boats and camps within the farm for mobile Wi-Fi connectivity. As a result of this new platform, Regal Springs now has a stable and high-performance infrastructure which is fully capable to provide triple-play services between the farms and the mainland areas. An application such as video-surveillance, not catered for by the previous wireless solution, has now become possible, with video streams from all locations being delivered in real time, increasing asset protection and employee productivity, efficiency and ultimately the company's return on its investment.

*"Implementing this project was full of challenges from the very beginning. On the one hand, we needed to deploy high speed connectivity to various water reservoirs, dotted around the country, then distribute the different services and data feeds from each location across our entire network. On the other hand, we had to install and supply solar energy to each water-based location because of the remoteness of the area and the total lack of electrical grid and suppl. Our requirements are not the typical ones encountered in many other wireless networks, and the selected platform had to be reliable and robust, with zero downtime. With every possible scenario in mind, we found that InfiNet Wireless was our best choice for this project", - Wilber Jiemenez, Technologies Director, INXITE*

*"Before the InfiNet Wireless implementation, we had to depend on low cost wireless technologies that did not provide the required performance and maintain the high quality standards our operation needed. Today, we have a high speed platform operating in all our water reservoirs and which supports our different applications and interconnectivity with our processing plants on the other side of the mountains, all in real-time", - Humberto Villalobos, IT Manager at Real Springs Mexico*