

Unpacking Crystal Lagoons' sustainable technology

By  Sindy Peters

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Multinational water tech and innovation company [Crystal Lagoons](#) entered the South African market earlier this year bringing with it technology patented in 160 countries.

This technology was first conceived when scientist and entrepreneur Fernando Fischmann, unable to source a solution that would be able to maintain a large body of water efficiently to provide swimming and watersports facilities, resolved to develop it himself.



Since then Fischmann's work has received [numerous awards](#) including 'Innovator of the Year' and 'Innovation of the Year' in the Stevie Awards. We interviewed Alastair Sinclair, Crystal Lagoons' regional director for Africa, to find out more about their unique technologies, what makes it so cost-efficient, and what drew the company to the South African market.

■ Could you expand more on the evaporation control film and water desalination technologies? What makes them unique, how exactly do they work?

Crystal Lagoons has developed a water desalination technology that uses zero energy. The innovation works using heated water from the lagoons which pass through membranes, allowing steam to pass to another section. There it is condensed again as fresh water without using extra energy and almost without any additional cost, thus using energy that today is wasted.

The film-based evaporation-control technology lowers water waste by between 30-70%. Exclusively manufactured for Crystal Lagoons, the technology consists of adding a special additive to the water which spreads as an invisible anti-evaporation layer on the surface of the body of water. This additive is temperature-, wind-, and rain-proof.

■ What makes the technology so cost-efficient?

The construction and maintenance costs associated with Crystal Lagoons technology are very low due to the efficient use of resources through the patented water treatment technology. The technology uses 100 times less additives than conventional pool and drinking water technologies and 2% of the energy required by conventional filtration systems. Crystal Lagoons construction costs can be 10 times lower than that of a golf course, and the operation costs (including labour, energy and additives) are considerably lower when compared to other amenities such as green areas and parks of the same dimensions.

■ What are some of the market characteristics that drew Crystal Lagoons to SA?

Despite South Africa's ideal warm weather climate, the country's sprawling and fast-growing urban centres, especially those inland, provide little by way of accessible and clean water amenities. Crystal Lagoons, which uses technology that enables the creation of unlimited size crystal clear bodies of water in any location imaginable, provides a solution to this problem. The Crystal Lagoons technology is also environmentally friendly as it involves very low water consumption. Crystal

Lagoons use half the water required by a park of the same size, and 30 times less fresh water than a golf course. Because the lagoons work on closed circuits, the water wastage is minimal. This is of huge benefit to a country like South Africa, where both energy and water resources are scarce.



■What are some of the other technologies Crystal Lagoons is currently working on?

The firm's research and development department is responsible for the evolution and improvement of this technology. These innovations generate new patents on an ongoing basis. So far, Crystal Lagoons boasts 1500 patents in 160 countries worldwide. This is what has allowed Crystal Lagoons to grow from a single project five years ago to over 400 projects in 60 countries. Through this department we have also developed industrial applications for low-cost closed-circuit sustainable cooling systems and water desalination processes without energy, representing a revolutionary concept that provides a solution to the global issue relating to the shortage of energy and water.

ABOUT SINDY PETERS

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