

## Fraunhofer Chile's plans and alliance with Crystal Lagoons to desalinate water without energy

*The executive seeks to refocus the work of the entity, generating innovation from the demand of industries and add to SMEs.*

By Alejandra Rivera / Monday 4th February 2019



One of the first institutions to arrive in the country under Corfo's Centers of Excellence Attraction Program was Fraunhofer Chile Research, which operates two centers, one for solar energy and one for biotechnology. This year Pilar Parada, a biochemist from the University of Chile, took over as general manager. With a PhD in Molecular Biology from the Universidad Autónoma de Madrid and a Diploma in Innovation Strategy from MIT, she seeks to explore new paths for the entity: pushing innovation from the demand of industries and expanding to reach small and medium-sized enterprises (SMEs).

It already has projects in that direction: Fraunhofer Chile participates as co-executor of the Center for Translational Biotechnology developed by the Federation of Chilean Industry (SOFOFA), which will precisely put into practice the generation of innovation from the challenges that the industry installs.

In 2020 Fraunhofer Chile run out of Corfo's basal contribution. Resources, she explains, crucial to implement the "Fraunhofer model", which combines incremental innovation with disruptive innovation.

"Germany has 72 centres in the world and is based on the fact that a third of its funding comes from public funds, which is fundamental, because that third allows the freedom to think about disruptive things. If it hadn't been for the basal funding, there wouldn't exist either MP3 or streaming," she warns.

#### **-What if Corfo doesn't renew their financing?**

-We would have to look for another source of basal financing. The Fraunhofer Model is based on having one foot in the industry, but also on imagining the future, on making disruptive innovation. We cannot give in to a model that we know is successful. We are already in conversations with Corfo, our centers are aligned with the pillars defined by President Piñera.

#### **-What will be the focus of your management?**

-We seek to respond to particular demands, co-creating solutions with the client. And that is a fundamental change. Chile is much more prepared for these processes; it has already understood, for example, that the startup, if it passes through the valley of death, can become a big company. And that inspiring model is the German one. Today, 95% of its economy is explained by SMEs. A second hallmark of my management will be to have a mix of clients, large companies, but also SMEs.

#### **Alliance with Crystal Lagoons**

##### **-At what stage is the construction of the pilot plant for the desalination of water without energy ?**

-At the end of last year, we signed an agreement with Fernando Fischmann to transfer technology from a patent - a desalination plant for water with residual energy from production processes - to a technological reality. For example, in the case of Crystal Lagoons, the cooling of the lagoons is done with energy, and the residual energy will be

used to remove the salt from the sea water. That would be 60% cheaper than any of the technologies currently used, such as reverse osmosis, for desalination.

**-Could it be applied to the mining industry?**

-This is of enormous importance to the mining industry, because it has many processes where heat is generated and that waste heat could be used as energy for desalination. In addition, it would be a solution to face the scarcity of water in the north of our country.

**Biotechnology for salmon**

**-What projects are you working on at the biotechnology centre?**

-From grape marc we are generating food for the salmon industry, it is purely circular economy, we take a waste, we add value, in a key area that is aquaculture. With this, we will be able to lower the dose of antibiotics. It started as a Corfo project, but there is already a development of its own and we are talking to German aquaculture centres to get them to participate. In three or four years we could have the product on the market.

**-Envirotech, the biotechnology systems spin off, also targets the salmon industry. What are you developing?**

-One of the problems in the areas where salmon farms are located is the pollution of the sea floor that occurs under the cage ponds, the product of food, the faeces of salmon and dead fish, which accumulates. This makes less oxygen available in the area, which means that the cages have to be moved at a very high cost, about US\$ 5 million in addition to the wake of contamination they leave behind.

In January this spin off began to operate, with a technology that allows extracting - through an aspiration process- marine sludge without removing the soil, avoiding effects such as bloom of algae, to then treat the soil, so as to extend the useful life of that cage raft on a given surface. We are already in conversations to close contracts with companies.

In addition, in the next phase we have a project to produce gas from sludge, energy that could be used to lower the costs of the process. We already have interesting results regarding biogas production at a laboratory level.

Translated from the [original version in Spanish](#)