# Golden idea is potentially worth billions

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**Start-up company Previwo has developed products which can add billions of kroner to the value of Norwegian farmed salmon, using friendly bacteria to produce millions of healthy, thriving fish.**

The Norwegian fish farming industry estimates the financial loss resulting from bacterial ulcers in salmon at around two billion kroner per year. There are also ethical issues connected with animal welfare.

Injuries occur despite the fact that the aquaculture industry vaccinates several hundred million fish each year. The vaccines are only effective against those bacterial diseases which lead to high mortality and major losses in a short period.

### Friendly bacteria

Previwo's first "golden egg" is not a vaccine but a probiotic solution. In practice, they have developed a method in which the fish are immersed in a tank containing a special bacterial flora which does not harm the fish but which prevents attack by harmful bacteria.

This solution has been given the name Stembiont™. The company plans a gradual launch of the method this year, with anticipated sales of NOK 10 million. "We have observed a significant reduction in the incidence of ulcers in fish which have undergone treatment with Stembiont™, and a marked increase in growth rate," says Kira Salonius, CEO of Previwo.

In the initial large-scale test on post-smolts, they observed that 31 per cent of the treated fish were attacked by ulcer-forming bacteria, compared with 58 per cent of the fish in an untreated control group. Moreover, the growth rate of the treated fish increased by more than 30 per cent.

According to Salonius, the solution has been developed in collaboration with a handful of partners in the industry and among aquaculture companies. "They have provided us with very good feedback regarding the development and trials and have high expectations of the potential for savings using this product," she says.

**New vaccine**
In addition to Stembiont™, the company is developing other new products, including vaccines, in a project costing NOK 17 million. Innovation Norway is providing NOK 3.4 million in funding to the project.

“The plan is to have the vaccine ready for full-scale launch within three years. We intend to build up our production capacity and believe we will be able to treat at least 50 million fish in the first year. There is a very promising, major market potential, especially if the international market is taken into account. We also plan to develop our initial product, Stembiont™, in the global market,” says Salonius.

**Rational development**
According to Salonius, there are no other products on the market that provide adequate protection against the bacteria which cause ulcerative injuries. “It takes time to obtain documentation and official approval of these products.

Introduction to the market also takes time because the fish farmers demand thorough documentation and mature technology before choosing new and unfamiliar methods.”

Salonius explains that there is good dialogue between the company and new investors who will ensure that the product is industrialised effectively now that its efficacy has been documented.

“Without promising too much, we believe that the potential return for salmon farmers using these products is in the order of billions of kroner in the long run.”

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**About Previwo:**

- Founded: 2013
- Number of employees: 5
- Location: Kjeller and Oslo
- Products: Probiotics and vaccines for farmed fish
- Breaking news: The probiotic solution Stembiont™ will be launched in 2017
- Coming up: A new vaccine potentially saving billions of kroner for the Norwegian aquaculture industry
- The company was founded as a result of a verification project conducted by the Norwegian University of Life Sciences (NMBU) and Kjeller Innovation. The project is funded by the Research Council of Norway the “FORNY 2020” programme and Innovation Norway.