

THE GREEN INNOVATION





Anti-Fouling SOLUTION

badinotti | NET 

Green Innovation Solution

The Badinotti Group is working with Cage CTRL to develop and patent a new aquaculture green solution that is:

- ✓ non-toxic
- ✓ environmentally friendly



Green Innovation

The Green Solution is specifically made for keeping aquaculture nets clean without the use of antifouling or net cleaning robots.

- ✓ Saves time & costs
- ✓ Reduces carbon emissions



The Challenge

A normal
aquaculture net is
overgrown
in **2 weeks**



What is being used now?

Current net cleaning methods are harmful to fish health:

In-Situ Washing Services
> Emissions



What is being used now?

Current net cleaning methods are harmful to fish health:

Antifouling paints

> Biocides



How did we develop this collaboration?

Badinotti Group

Leader in aquaculture containment solutions for over 100 years



Cage CTRL

Leader in eco-friendly ultrasonic aquaculture solutions



Goal

To contribute to sustainable aquaculture with eco-friendly solutions for high quality food protein production.



Who is Cage CTRL?

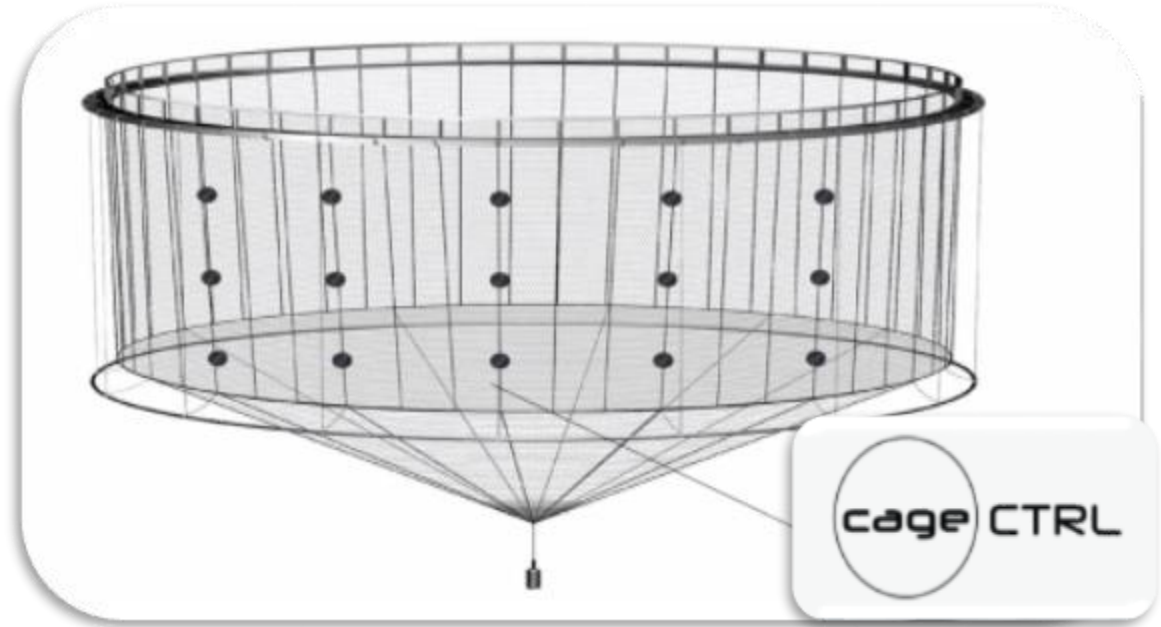
Cage CTRL™ has taken state of the art sub-cavitation antifouling technology to develop an eco-friendly nontoxic antifouling solution for aquaculture.

- ✓ The ultrasound created by the transducers cause vibration in the special aquaculture nets.
- ✓ This vibration makes it virtually uninhabitable for undesired marine life.
- ✓ The whole process is safe and non-invasive for the fish.



How does the Green Solution work?

- Transducers placed around the net
- Ultrasound from Transducers
- Transducers have high transmission using Badinotti's conductive net: Combinet[®]



Green Solution: Net Conductivity

Transducers
placed around the
conductive net

Metal is inside the
outside the net
fibre



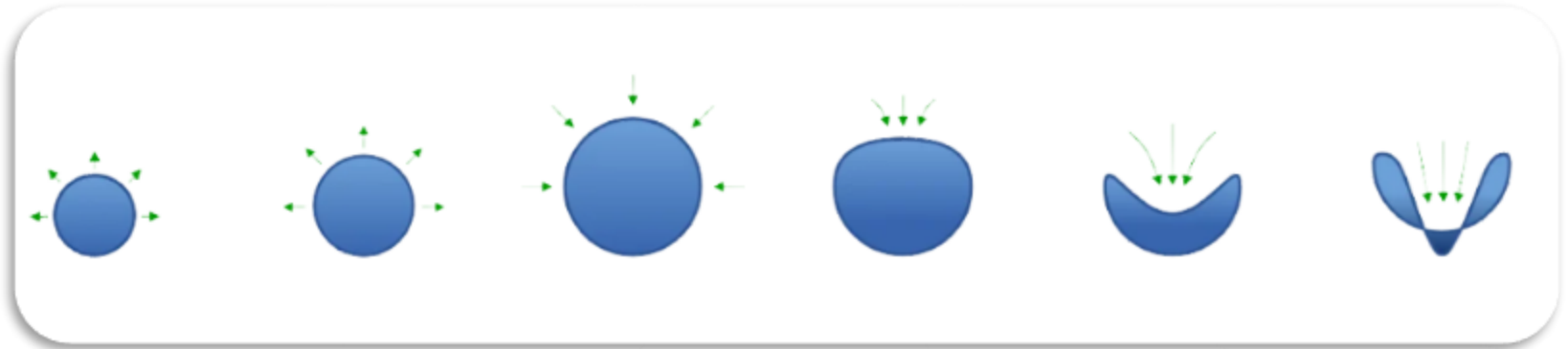
Combinet® | Anti-Predator Net

- Combinet® is manufactured in Slovakia
- Originally designed as anti-predator net
- Combination® of Dyneema® and metal provide highest conductivity



How does the Green Solution work?

Ultrasound produces a pattern of increasing and decreasing pressure on the surface of the net which causes a process called non-inertial cavitation.



Results at Aquaculture Sites

40 days after
using Green
Solution



2022 Trials at Aquaculture Sites

We are using Green Innovation at the following pilot sites:

- Canada
- Mediterranean
- France
- North Atlantic
- Norway



No negative impact on Marine Environment

Green Solution does not harm environment:

- Ultra-sonics do not negatively impact humans and marine life
- It does not interfere with sonar or electronic equipment



Benefits of Green Solution

Benefits of the Cage CTRL System:

- Higher oxygenation in net cages
- **No fish stress**
- Better feed intake
- Faster growth
- Increase in fish health (gills)



Operational Savings of Green Solution

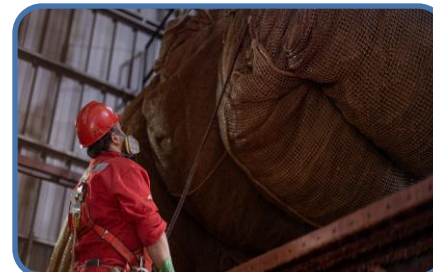
The following costs savings use Norway salmon farming as an example:



Net Cleaning for
aquaculture cages



Changing nets in the
middle of one farming
cycle



Salmon Net
Antifouling
impregnation

Benefits Analysis of Green Solution

- ✓ Reduced CO2 emissions
- ✓ No stress on the farmed fish due no disturbance
 - ✓ Better fish welfare
 - ✓ Higher profitability per fish or aquaculture centre
- ✓ Cost effective - aquaculture nets last longer
- ✓ Financial Savings – reduction in overall Net Maintenance Services
- ✓ Less microplastic pollutants vs. Insitu Net Washing services



Questions?

If you have additional questions, please email us:

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