



## New Cage Net Technologies – Addressing Fouling, Sedimentation and Fish escapes

# AGENDA

- **Brief about Garware Technical Fibres**
- **Industry Challenges**
  - **Sedimentation and Bio-fouling**
  - **Fish Escapes**
- **Garware Solutions to address Industry Challenges**



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TECHNICAL FIBRES

**Mission:**

**Provide innovative application focused solutions to enhance value of our customers globally**





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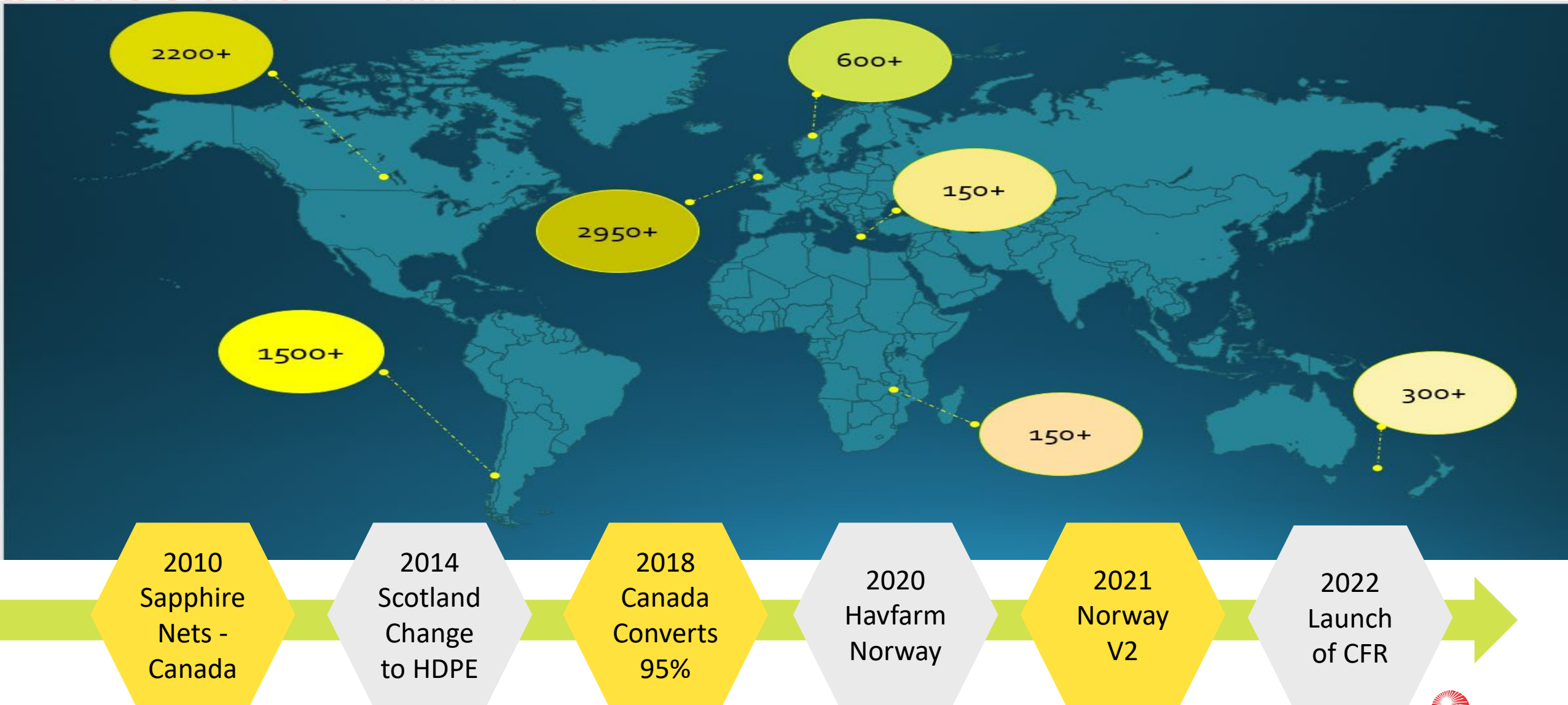
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# PIONEER IN SALMON INDUSTRY FOR HDPE SOLUTIONS

## More than 8000 HDPE Cage Nets since 2010





# Industry Challenge

Sedimentation

&

Bio fouling control





# **INDUSTRY CHALLENGE AND GARWARE TECHNICAL FIBRES SOLUTIONS**

## **INDUSTRY CHALLENGE - Bio Fouling and Sedimentation**

- Sedimentation
- High Operating cost for cleaning or fouling control
- Disturbance to fish during cleaning operation

## **GARWARE SOLUTION**

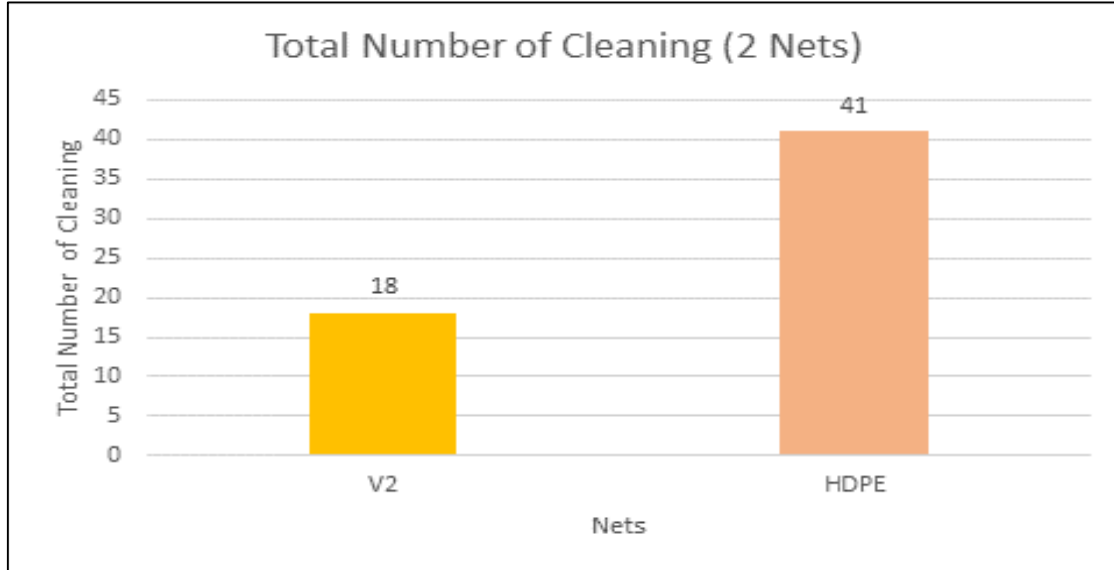
- Nets with built in sustainable and effective antifouling properties



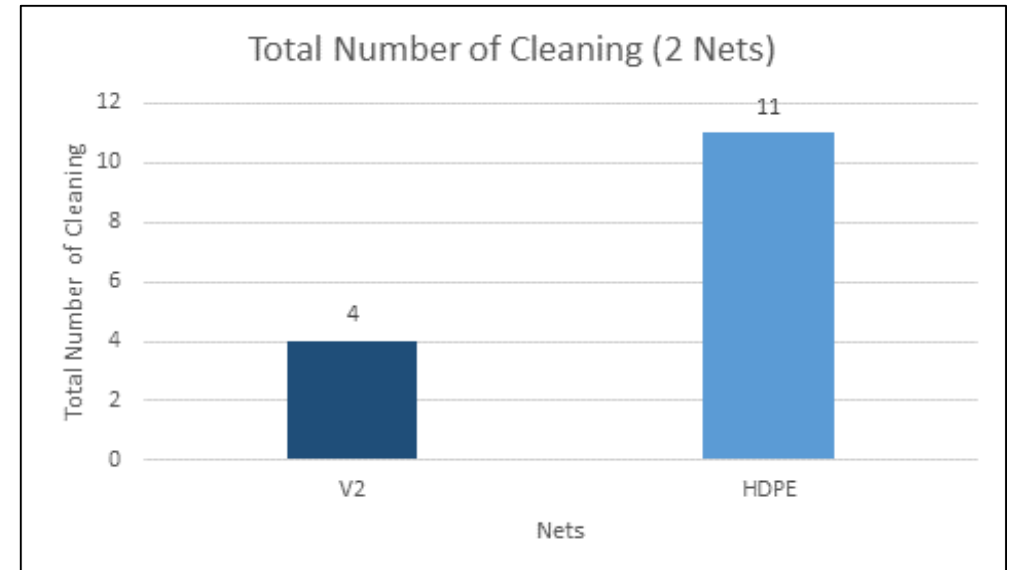
# SUSTAINABLE HDPE CAGE NET SOLUTION – V2 NETS

## Reduction in Cleaning – Saving Operation Cost

**NORWAY: 1st June 21 to 15th Oct 21**



**CANADA: June 21 to Jan22**

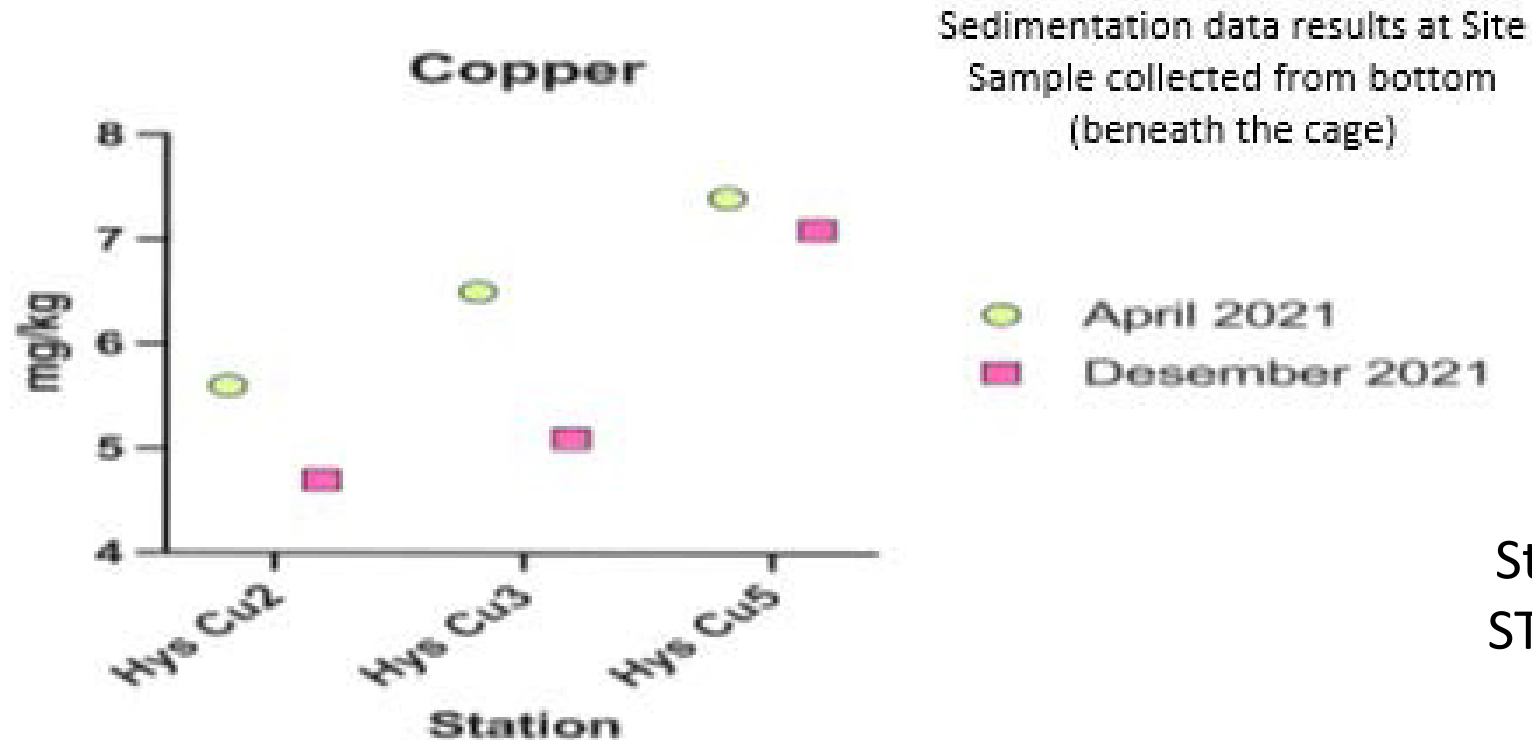


**Up-to 60% reduction in cleaning  
observed**



# SUSTAINABLE HDPE CAGE NET SOLUTION – V2 NETS

## Reduction in Sedimentation – Sustainability



Study carried out by  
STIM in Norway with  
V2 Nets

**Copper level in fish after production cycle  
within standard limits  
Similar cleaning to Econea painted nets**



# SUSTAINABLE HDPE CAGE NET SOLUTION— V2 NETS





# Industry Challenge

## Fish Escapes





# INDUSTRY CHALLENGE AND GARWARE TECHNICAL FIBRES SOLUTIONS

## INDUSTRY CHALLENGE - Fish Escapes

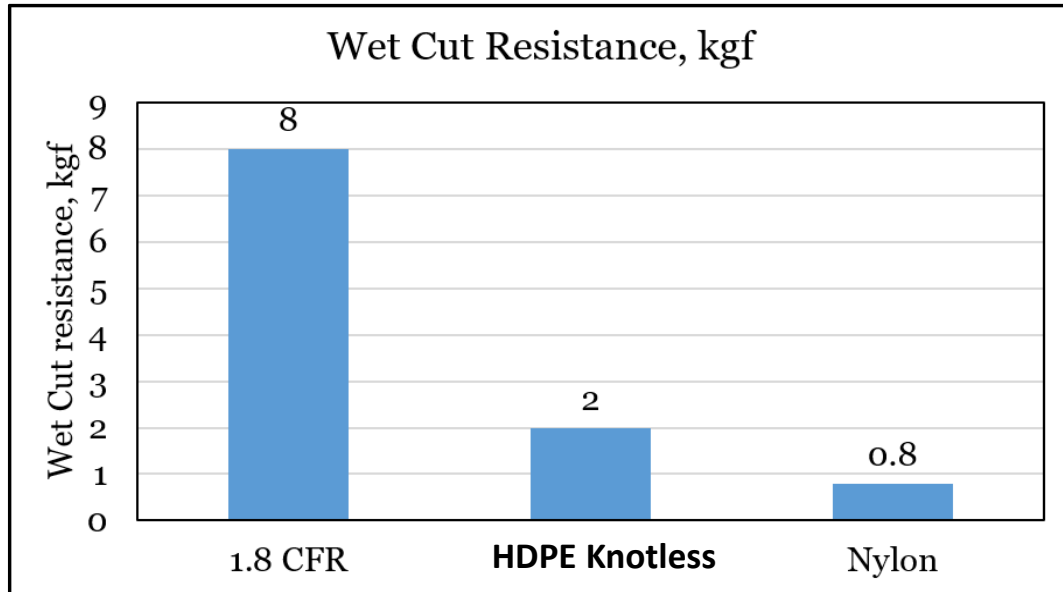
- Studies says 76% of escapes due to holes in the Net
- Early retirement of conventional Nylon cage net due to accelerated loss in mesh breaking strength
- Poor abrasion resistance of conventional netting

## GARWARE SOLUTION

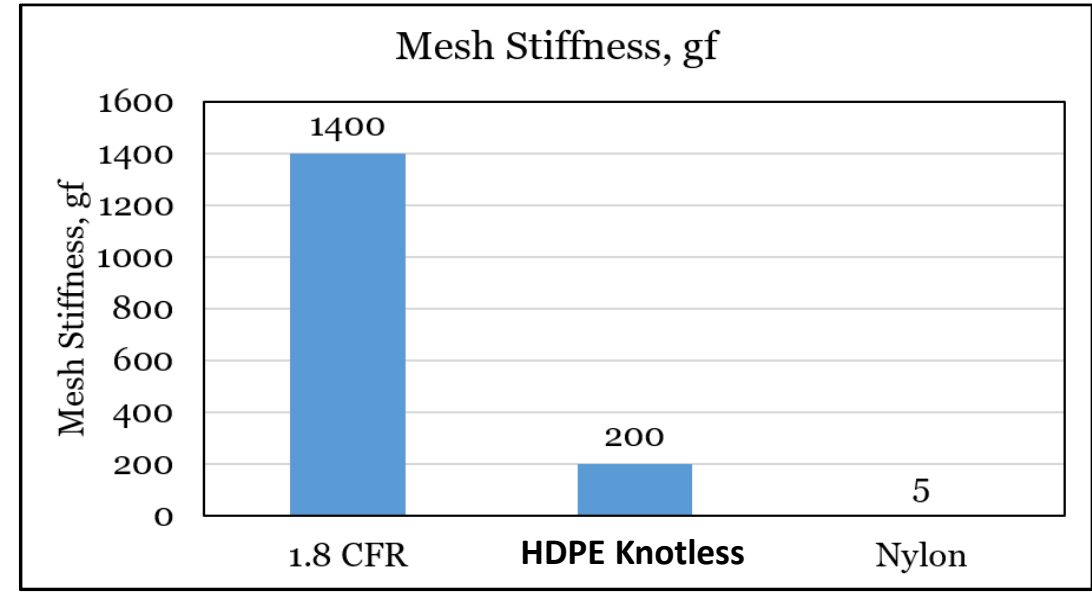
- Nets with high wet breaking strength
- Better wet abrasion resistance
- Better shape retention
- Higher cut resistance

# NEW GENERATION COMPACT HDPE NETS

## SAPPHIRE CFR\*




**CFR : 10x high Wet Cut Resistance than Nylon**



**CFR : >100x Mesh Stiffness than Nylon**

**Comparable solidity with anti-fouled Nylon nets**



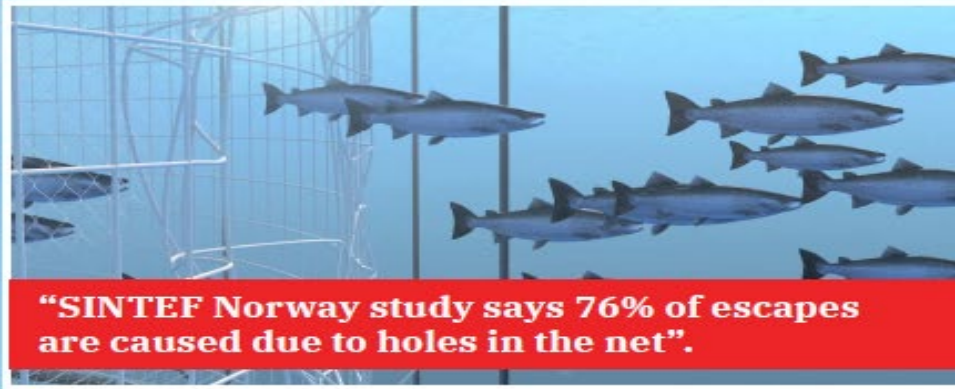


**Smart Pen –  
Break Indication net  
V-15**

# What if A Cage Net can talk to you?

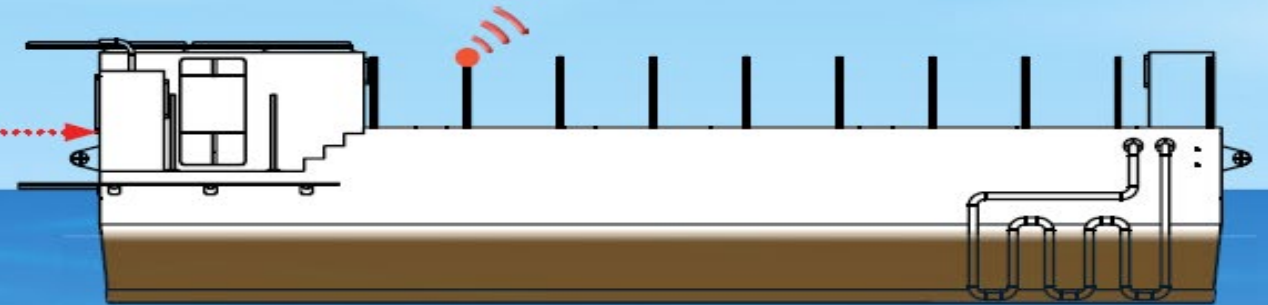
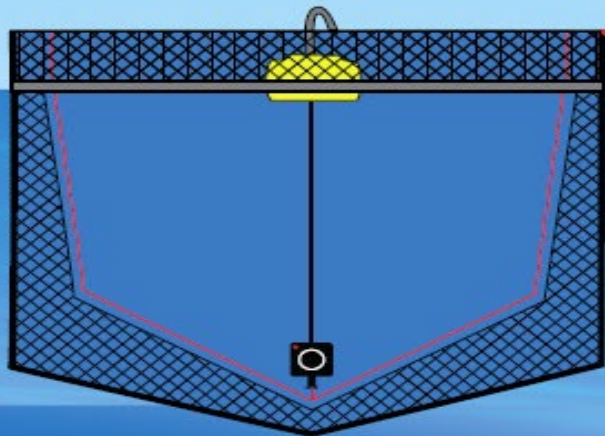


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**NOVEL BUILT-IN IOT TECHNOLOGY  
ALLOWS THE CAGE NET TO SPEAK  
TO THE FISH FARMER 24/7.**

**SMART CAGE NET - PANELS CONNECTED  
WITH RESPONSE MECHANISM**

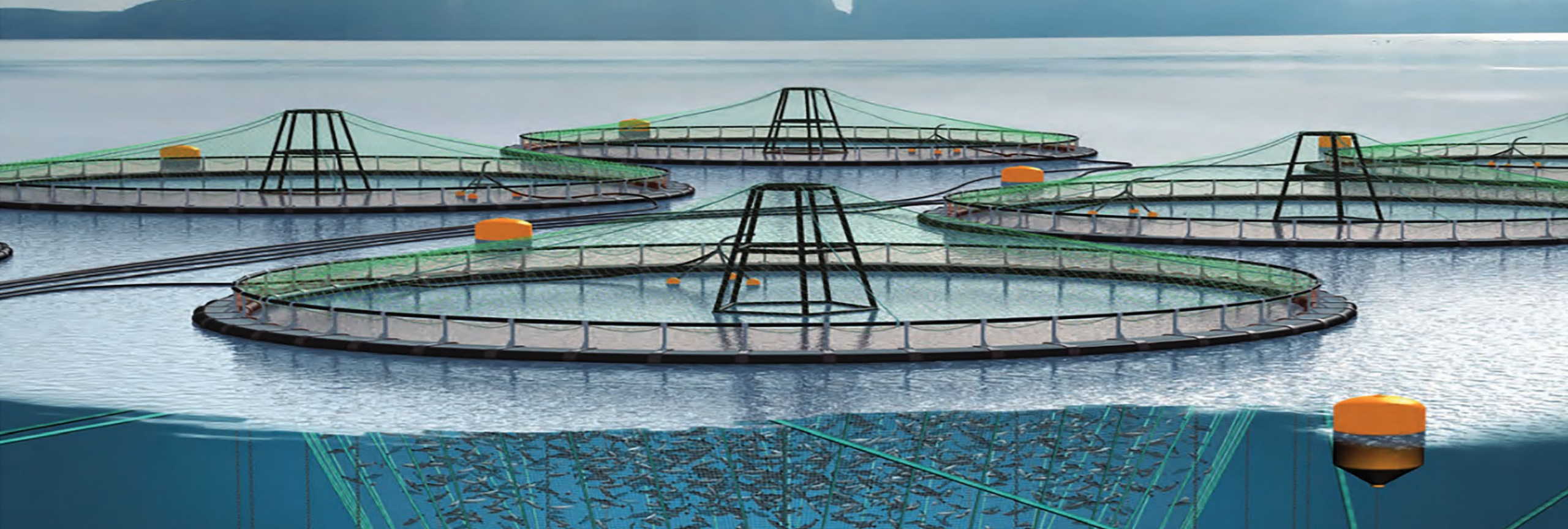






# Acting **TODAY** for Sustainable **TOMORROW**

- **V2 nets** – Solution to sustainable and effective fouling control
- **Next Gen Compact Nets** - CFR and V15 Smart Nets – Solution to address fish escapes



- Cage & Predator Net
- Mooring Ropes
- Lice Skirts
- Wrasse Hides

- Algal Bloom Shields
- Bath Treatment Tarps
- Cage Cover Nets

Thank you!