



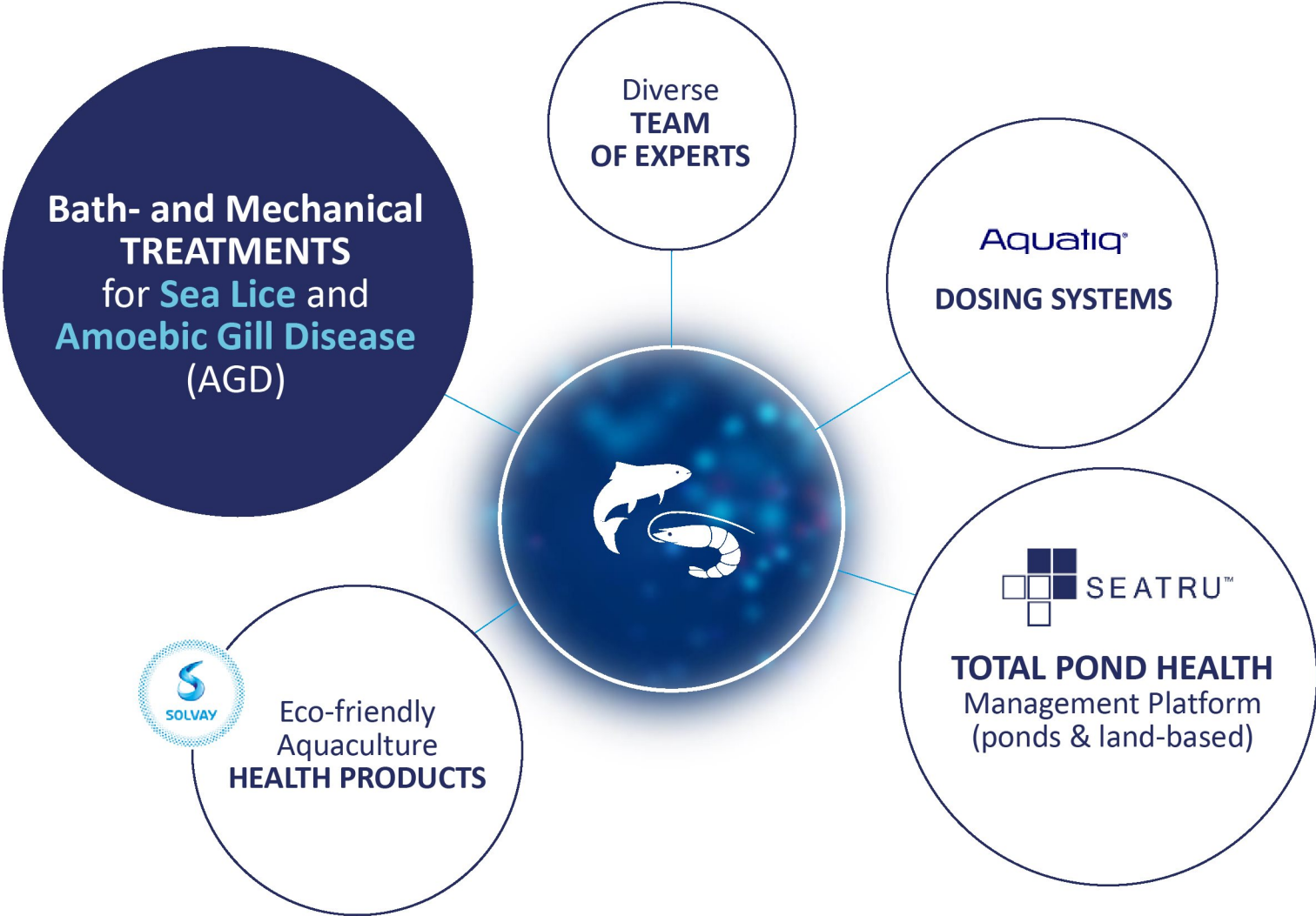
Addressing Amoebic Gill Disease (AGD) in Salmon Farming

CHALLENGES AND OPPORTUNITIES

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We are Health Management Specialists Providing Worldwide
Concepts and Technologies for
Fish and Shrimp
Disease Prevention
& Control



50/50 JV SOLVAY AND AQUATIQ

Scientific Data Needed

Lack of scientific data and
standardization
for combating
Amoebic Gill Disease (AGD)
in salmon farming.

Guidance and Collaboration

Guidance from sector on possibility
to collaborate on research for
introduction of
**localized, country-specific
management strategies.**

Information shared in this presentation is based on observations from various sources, including a 2023 AGD seminar, field observations, feedback from salmon companies, and insights from veterinary research organizations.

Increased Occurrence Globally

AGD is a persistent challenge in global salmon farming

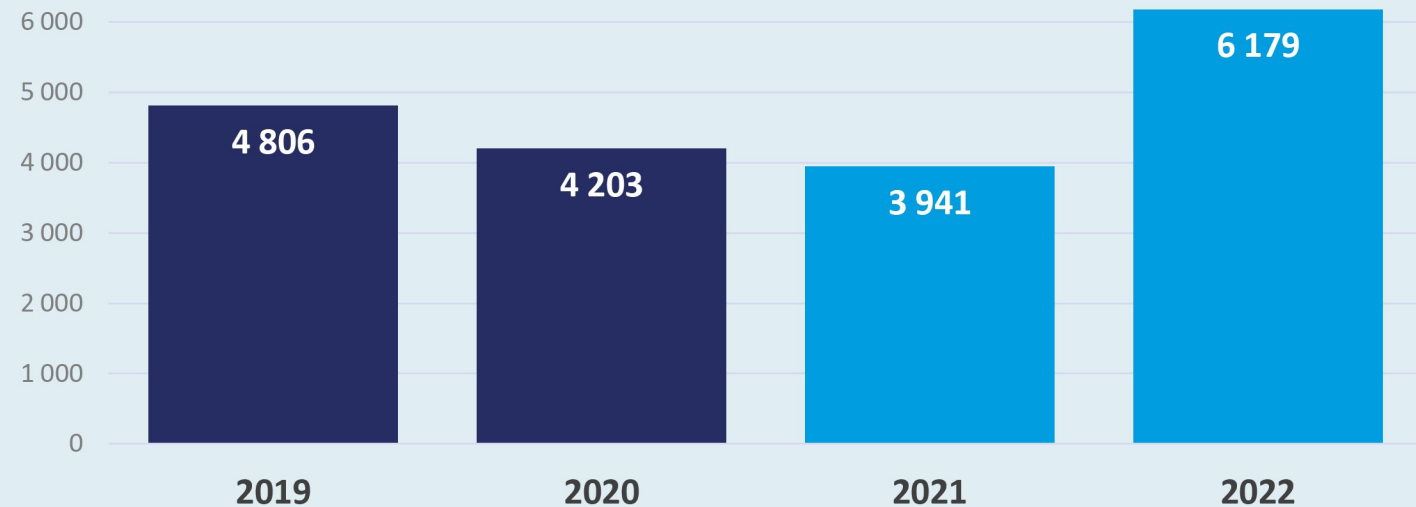
Companies in Scotland, Chile, and Norway report surges in AGD outbreaks, especially during summer and autumn when rainfall is at its lowest and salinity higher. These conditions seem to create a favorable environment for AGD.

AGD has transitioned from a seasonal issue to year-round due to rising sea temperatures and other factors

Source: Aqua Pharma Group

AGD treatments in Scotland - Example from major operator

Increase in treatments over last 4 years, numbers doesn't tell the whole story



Developments in Monitoring and Detection

AGD leads to severe consequences for fish welfare:

- High mortalities
- Reduced growth
- Increased poor-condition fish, susceptibility to diseases, and mortalities during lice treatments

Source: CSIRO, Australia

Encouraging developments:

- Gill scoring
- Histopathology
- PCR testing

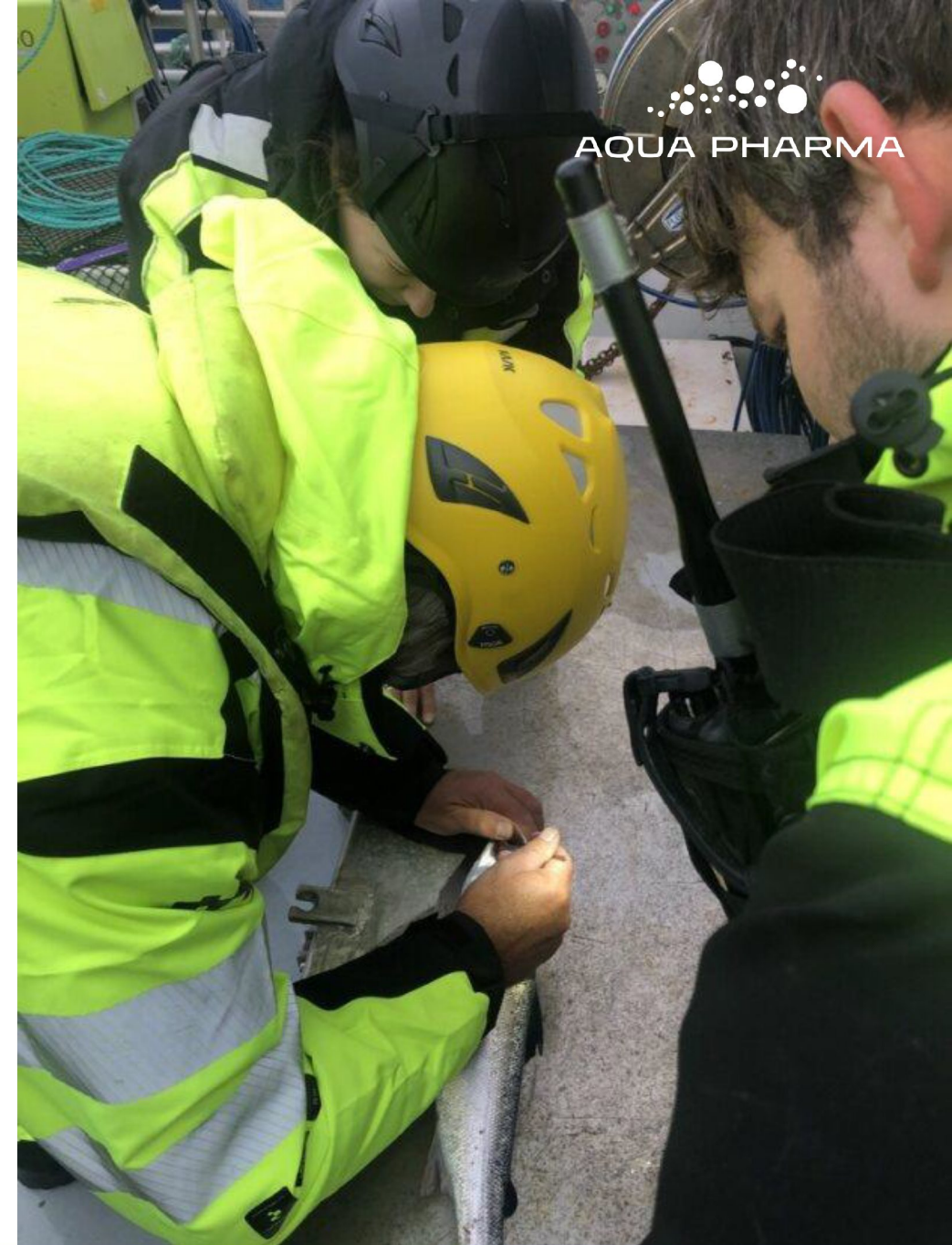
Standard Monitoring Practices.
Well embedded globally.

Source: 2023, Pharmaq Analytiq AS

Challenges:

Gill scoring subjectivity,
leading to **delayed detection**.

Innovative approaches like Ct
values are emerging for better
quantification of AGD.

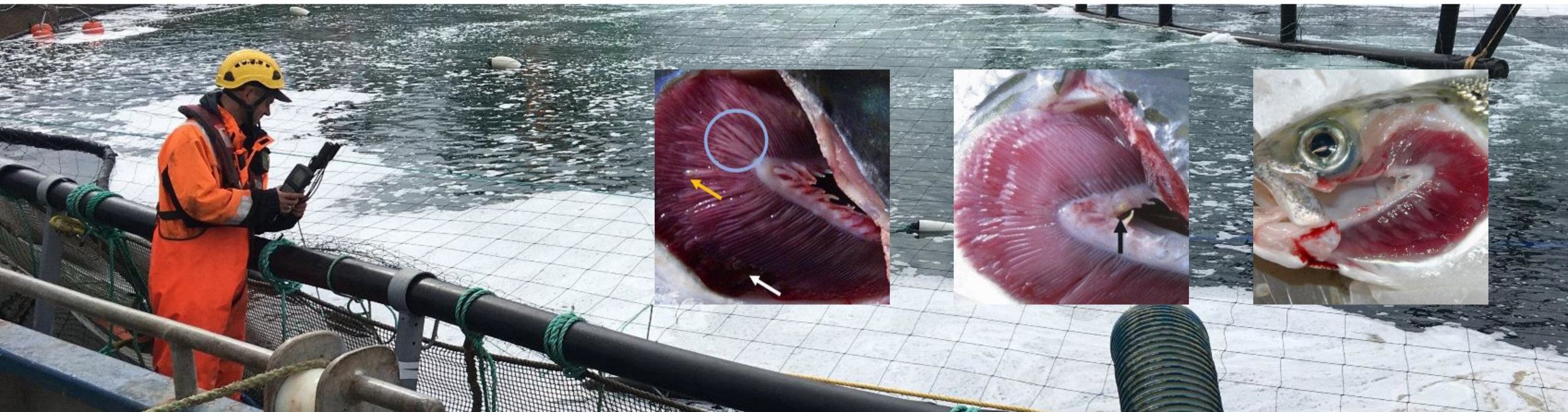


Challenges in Surveillance and Control of the Amoeba

Surveillance and control are complicated due to subclinical forms, complex gill diseases (CGD), and a lack of effective treatments.

CGD can lead to mortality even without fish handling.

Observations include petechia on gills during spring/summer and chronic changes in the fall.



Only Two Main Treatment Options: Freshwater and Hydrogen Peroxide (H_2O_2)

Freshwater

avored, but requires well boats

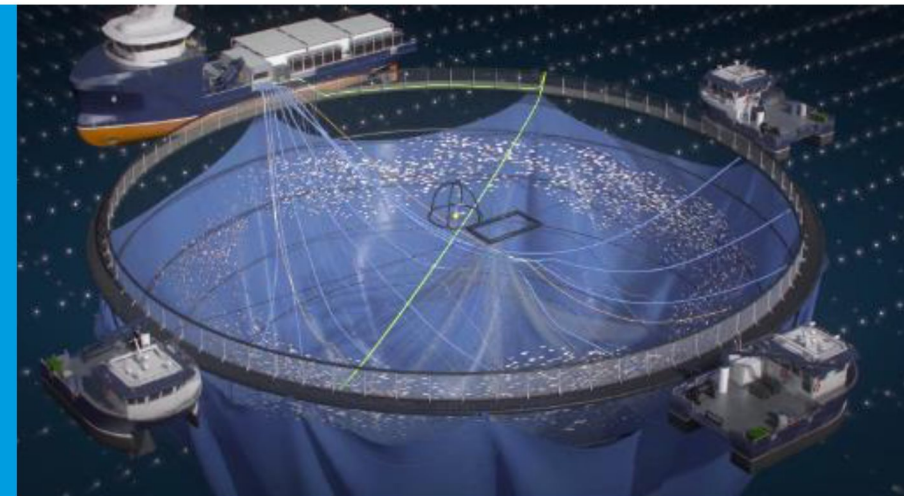
more extensive handling

H_2O_2

alternative

Possibility to treat in cage
with tarpaulin setups

reduced fish handling



Source: Aqua Pharma, Scotland observations



**Salmon farming companies globally
seek scientific research
to optimize surveillance and AGD prevention**

Improved **diagnostic tools, treatments,**
and **prevention strategies** to reduce economic losses.

Better understanding of **AGD's ecology**
for more sustainable practices.

Tailored, localized strategies are essential
due to regional variations.

Call-out for guidance

More collaboration and research towards standardized surveillance,
improved detection,
and optimized treatment strategies



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