



# Beneath the surface: Real-life application of AI **Aqkva AI Conference**

04 June 2025

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Insight**

 **Aquabyte®**

# Aquabyte is the market leader in **camera-based biomass, welfare and sea lice monitoring** in salmon aquaculture

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- Offices in Norway, USA, and Chile
- We operate in all major salmon farming regions
- Our customers are the largest salmon farming companies in the world
- Three species: Atlantic salmon, Coho salmon, and Rainbow trout
- Our employees are experts in aquaculture, marine biology, computer vision, and artificial intelligence



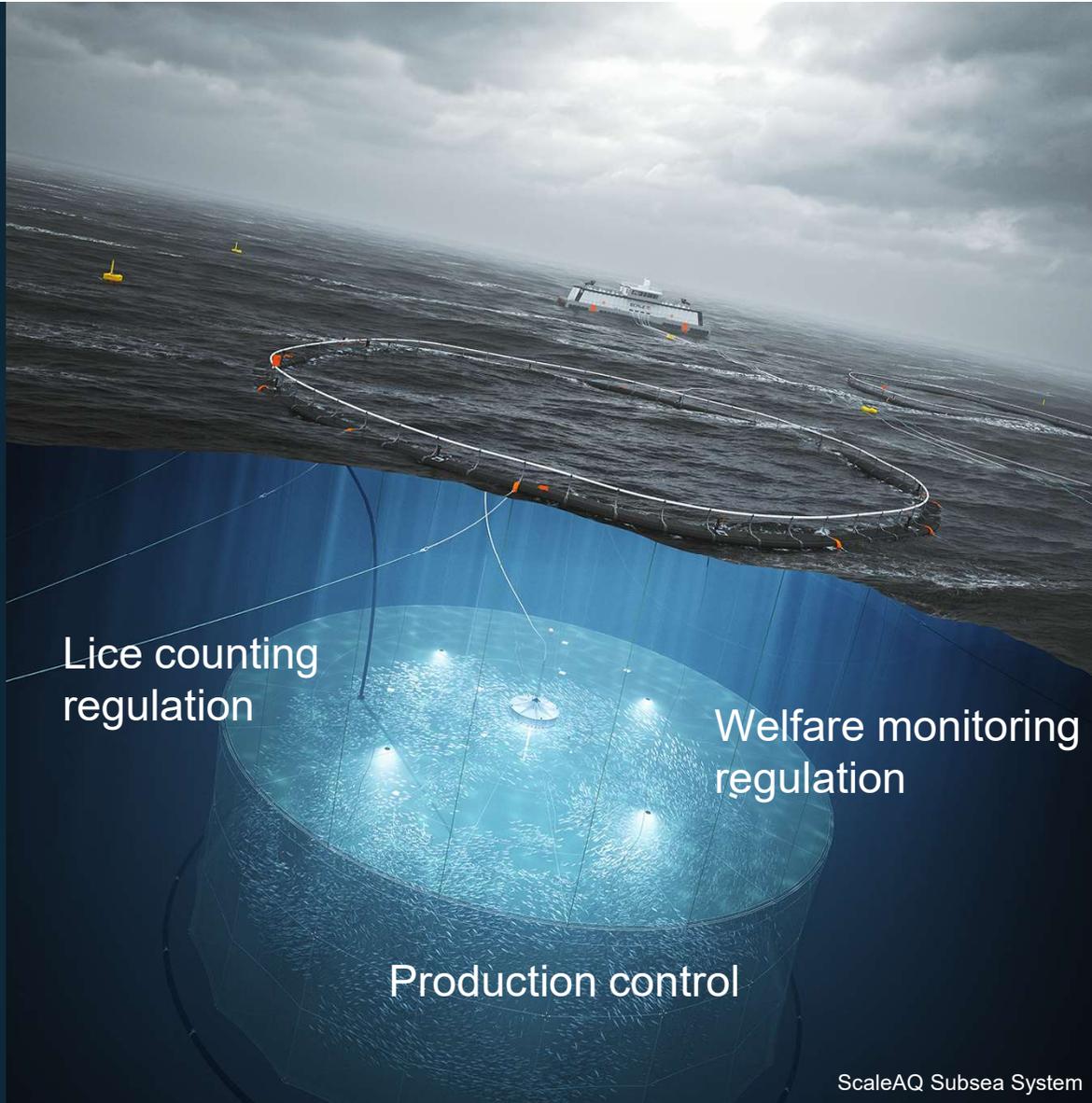
 Aquabyte®

# Artificial Intelligence in aquaculture today

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- Surfaces previously unavailable or unattainable data
  - Real growth patterns
  - Size distribution
  - Behavioral data and population dynamics
- Automates monitoring of lice, externally observable welfare, and stress
- Soon - Exceeds human performance in repetitive tasks and complex decision making





Lice counting  
regulation

Welfare monitoring  
regulation

Production control

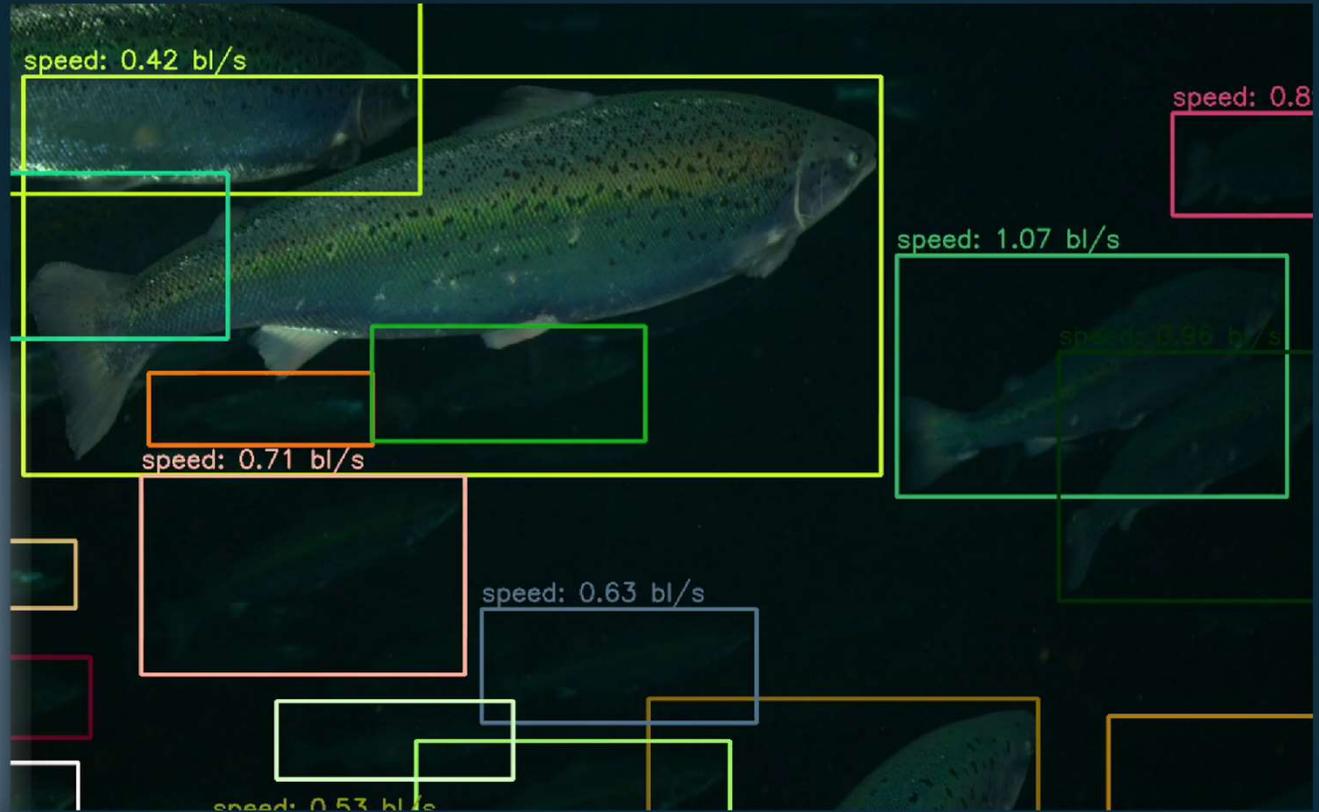
ScaleAQ Subsea System

 Aquabyte®

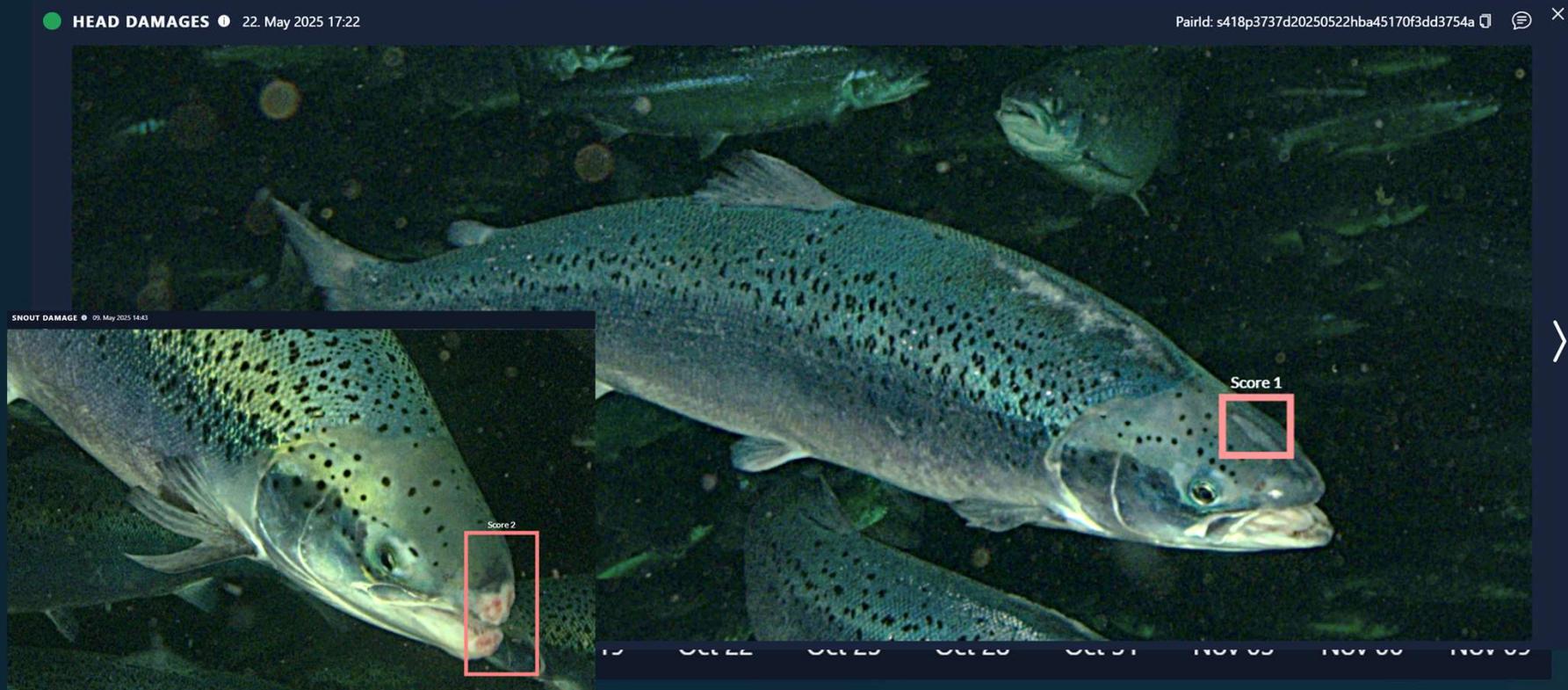
# Automatic lice counting

The screenshot displays the Aquabyte mobile application interface. At the top, the header includes the Aquabyte logo, a 'Select site' dropdown menu, and the user's name 'Reinhard Fellner'. Below the header, a navigation bar shows several site tabs: 'All sites', 'Midtflua', 'Fagraeyri', 'Klokkard', 'Karanes', 'Endreset', 'Fellesho', and 'Håbrand'. The main content area is titled 'LICE - Images' and features a large image of a fish. The image is annotated with red boxes highlighting lice on the fish's body. A metadata bar above the image indicates '2 Adult female' and '2 Mobile' taken on 'Monday Feb 24, 15:09'. Below the image, there are navigation arrows and a fish icon. At the bottom, a 'MY REPORTS' section is visible, showing a report for 'Tuesday Feb 25, 07:09' with 'Pen 1' and 'See more' options. A status bar at the very bottom indicates 'Showing 30 of 295 photos'.

# Automatic swim speed monitoring



# Automatic welfare monitoring



# Automatic foreign fish detection

Pen 5  
Saturday May 24 23:53

Hourly swim speed  
0.87 bl/s

Hourly swim tilt  
4°

Daily Breathing  
0.1

Behavioural data are based on the analysis of many video files. The behavior shown in this video may therefore differ from the presented data.

8°C 27.8 m 81% 33.4‰



0:27 / 0:29

Aquabyte®

The image shows a video player interface for an underwater video. The video displays several fish swimming in a dark environment. The interface includes a title 'Pen 5' and a timestamp 'Saturday May 24 23:53'. It also displays four key performance indicators: 'Hourly swim speed' at 0.87 bl/s, 'Hourly swim tilt' at 4°, and 'Daily Breathing' at 0.1. A disclaimer states that the behavioral data are based on the analysis of many video files and that the behavior shown in this video may differ from the presented data. Environmental parameters are shown as 8°C, 27.8 m, 81%, and 33.4‰. The video player shows a progress bar at 0:27 / 0:29 and a play button.



# TAKK

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