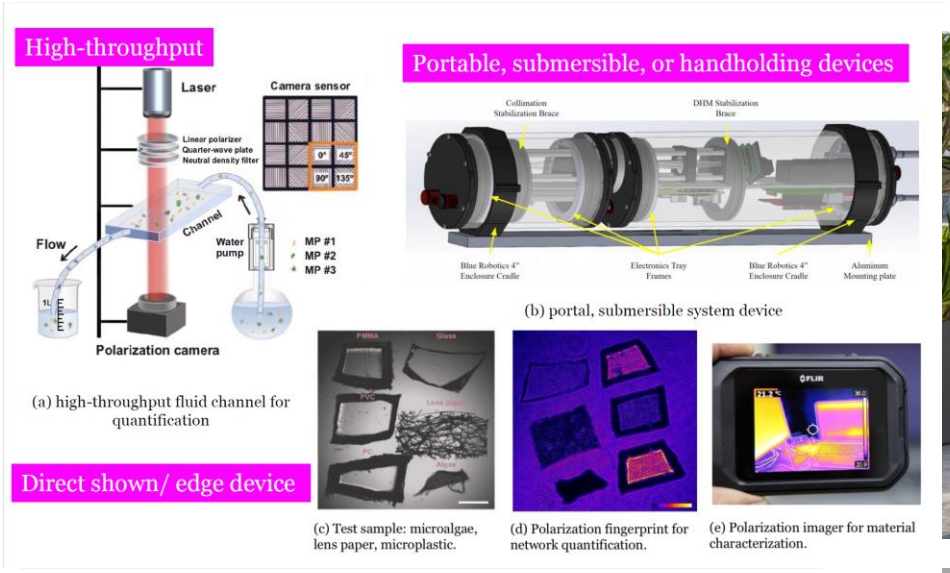
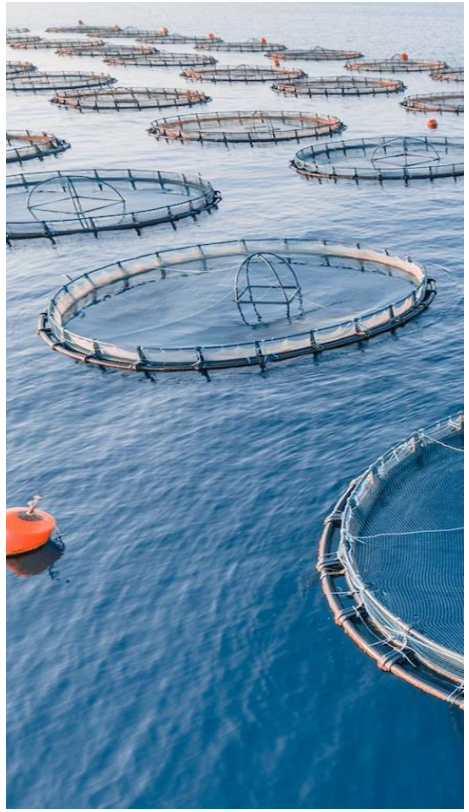
SNAPP Ocean Data Solutions

One-stop solution for microplastics detection

Partners: Photonics Imaging Lab, HKU Microplastic Imaging and Detection



DEEP DIVE: Blue Economy



The blue economy is worth USD >**1.5trillion** per year.*

It consists of **Fish Farming, Seaweed, Oysters, and Coastal Tourism**

Aquaculture is the fastest growing food sector globally. The integrated farming of oysters and kelp helps to remove nitrogen and excess carbon dioxide from the ocean. It also has the potential to generate **blue carbon credits** and contribute to **coastal tourism**.

Real-time Data Collection

Disease Management and Prevention

Enhancing Scalability

Monitoring Sustainable Food Sources

Research and Conservation

Sources: Feed Strategy, Ceningan Divers

*https://www.lse.ac.uk/granthaminstitute/explainers/what-is-the-role-of-the-blue-economy-in-a-sustainable-future/#:~:text=The%20blue%20economy%20is%20estimated,to%20over%20three%20billion%20people.

Aquaculture, Sustainability, and Microplastics

According to the FAO, **aquaculture** is the fastest growing food sector globally. It contributes significantly to **food security** and better **nutrition** around the world. More than 50% of global consumption of aquatic food are farmed.

While aquaculture has the potential to alleviate pressure on wild marine fish stocks, it is important that it is carried out in a sustainable and environmentally friendly way. The FAO through its **Blue Transformation** vision advocates for the sustainable production of aquatic foods to provide people with affordable nutrition while keeping environmental footprint low.

Studies have shown that **seaweed and bivalves aquaculture has the potential of contributing to a healthy coastal marine ecosystem**. Bivalves act as a natural filter for nitrogen, while seaweed remove excess carbon dioxide in the ocean. Further, seaweed also provides a food source, nursery ground and habitat for other marine species.

As **microplastics have been detected in our oceans at alarming rates**, it has become ever more important to detect and identify the microplastics in the aquaculture farms in the ocean before it enters our food chain. By using **polarized-holographic imaging technology**, we can ensure that fish farms are setup in places with low microplastic content and provide a sense of security to the end-users who eat the produce.

We at SNAPP Ocean Data Solutions would integrate these this technology with the state-of-the-art robotic fish to **detect and clear microplastics** from the ocean.

Key Impact Area 1: Aquatic Food Security

Global hunger has worsened in recent years. **About 1/10 of the global population (or approximately 811 million people) are undernourished**, according to “The State of Food Security and Nutrition in the World” report (SOFI2021 Report).

Our application in collaboration with **Imaging Systems Laboratory** in commercial aquaculture has the potential to **boost and scale up sustainable aquaculture production systems**. This would help to reverse the trend of growing food insecurity and hunger. In addition, Snapp is poised to monitor our oceans as we scale our efforts, **providing critical data to assess our impact** on and foster sustainable decision-making.

We have potential clients who are interested in detecting microplastics in their aquaculture farm, Radmantis in the United States.
http://www.radmantis.com/