

Promise of Open Ocean Fish Farming & Digital Technology

An Impact Investor's View



Cuna del Mar Overview

- Impact Investment Fund focused on the Grand Challenge of aquaculture
 - Prove viability of offshore finfish aquaculture
 - Environmentally sustainable, scalable, and profitable fish production
- Patient capital, but true success requires profitable companies
- Investment focus
 - Open Ocean Farm Technology
 - Species development - primarily warm-water finfish
 - Finfish production - area with limited sources of funding currently
- \$100M+ invested to date



Cuna del Mar - Current Portfolio

- **Earth Ocean Farms**

- Vertically-integrated, Mexico-based producer of Totoaba and Pacific Red Snapper
- 500 MT of production scaling to 3,000 MT

- **Open Blue**

- Vertically-integrated, Panama-based producer of Cobia
- 2,000 MT of production scaling to +5,000 MT

- **InnovaSea**

- Aquaculture technology company supporting egg to harvest production - based in USA
- Hatchery, Nursery, Grow-out RAS technology specializing in warm water marine species
- Submersible pens and supporting ocean grow-out farm systems
- Instrumentation using IoT, cloud-based data delivery for real-time operational support
- Largest supplier to world Fish Tracking Network - wireless acoustic telemetry (proven background technology)

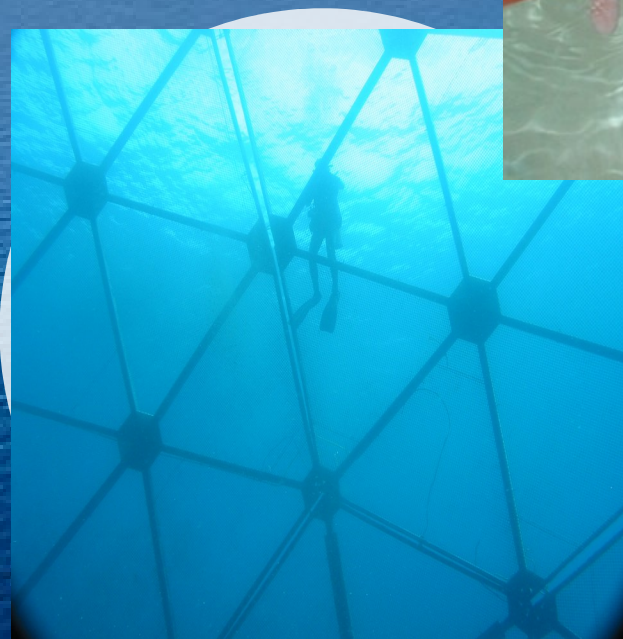
- **Center for Aquaculture Technology**

- Aquaculture biotechnology company with US & Canadian operations
- Genomics and molecular biology technologies coupled with in vivo testing



Earth Ocean
FARMS

- **Vertically Integrated Operation: Egg-to-Plate**
- **Product: Red Snapper & Totoaba**
- **Expanding National & International markets**





Caring for ocean and human health.

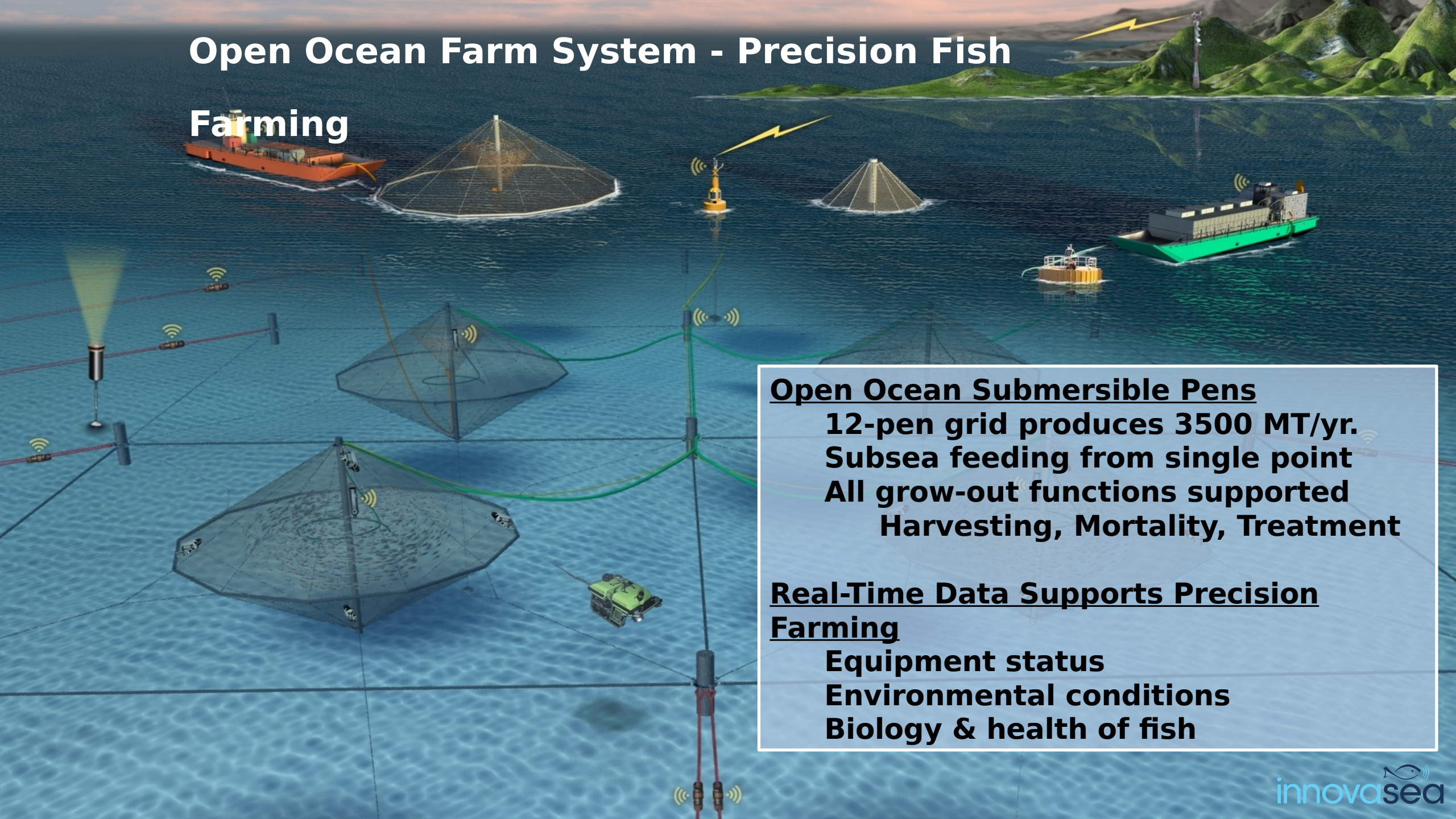
“ Feed Current & Future Generations in Harmony with the Ocean ”

- **World’s largest open ocean finfish farm!**
- **Vertically Integrated Operation: Egg-to-Plate**
- **2,000 MT of production Cobia. Scaling to +5,000 MT**
- **Expanding National & International markets**
- **Fully Internationally Certified with annual 3rd party audits**
- **Working through the United Nations Global Compact to achieve the Sustainable Development Goals**



Open Ocean Farm System - Precision Fish

Farming



Open Ocean Submersible Pens
12-pen grid produces 3500 MT/yr.
Subsea feeding from single point
All grow-out functions supported
Harvesting, Mortality, Treatment

Real-Time Data Supports Precision Farming
Equipment status
Environmental conditions
Biology & health of fish



Harvest Solutions

Site & Species Selection

Hatchery & Nursery Solutions

Mortality Management Solutions

Ocean & Grow-out Solutions

Bathing & Treatment Solutions

Submerged Feeding Solutions

Sensors, Cameras & Communication

Cloud-Based Data Delivery



Business Overview

- Leading research & development and contract service organization:
Science to improve sustainability and productivity
- Globally recognized R&D team and highly versatile laboratories
 - Staff are leaders in fish and shellfish health, nutrition, genetics, and gene editing
 - > 30,000 sq. ft of state-of-the-art facilities: Only Level 3 pathogen certified private aquaculture wet lab in the world
 - International scope across all major species
- Fully owned by Cuna del Mar L.P.



Business Segments

Health & Nutrition

- ~~Commercial trials in fish nutrition and fish health~~
- **Diagnostics laboratories**
- **In vitro models for health and nutrition**
- **GLP/GCP regulatory compliance platform**
- **Assist with every step of product development pipeline from proof of concept to regulatory approval**

Genetics

- **Breeding program design and support**
- **Genomic selection and genome wide association studies**
- **Genotyping laboratory for marker panels and R&D**
- **Genomics expertise, variety of genomic tools**
- ~~Internal R&D for disruptive DNA-based technologies~~

Molecular Biology

- **Gene editing tools adapted for aquaculture**
- **Patents filed for gene editing solutions to fish sterility**
- **Program investigating anti-viral solutions for shrimp**
- **Integration of gene editing tools into commercial-scale aquaculture breeding program.**

Possible Futures - Summary

- **Open Ocean Aquaculture: Addressing the Grand Challenge**

- We need more fish in the water - what are the business models?
- Highly automated, cost effective, profitable, environmentally sustainable
- Multiple small & medium sized farm sites - scalable 500>5,000>20,000 MT
- Replacing collapsed wild fisheries
- Emerging economies - the growth will be in Asia, India - warm water

- **Science & Technology:**

- Supply of high quality broodstock for tropical fin fish
- Standardized high efficiency hatchery and nursery systems design
- Health, nutrition and disease management
- “Real Time” complete instrumentation of farm sites
- Capture, Analysis and Utilization of ocean data