DEEP VISION

Harvest control for more sustainable fisheries

7th Global Fisheries Enforcement Training Workshop

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GCE Ocean Technology

CRIMAC

Innovation Norway

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How can you use the Deep Vision technology to target IUU fishing?

The fisheries are in crisis

- Almost 90% of global commercial fish stocks are overfished or fully exploited
- 1/3 of the stocks are overfished
- More than 10% of the annual global catch is discarded
- We need to feed a growing population that will reach 9,8 billion by 2050
- Global demand for seafood expected to almost double in this period
- The global fisheries loose approximately $83 billion a year

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We are wasting valuable marine resources in a world where we so desperately need them.


The
Economist
The looming food
catastrophe

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We need to find radically news ways to harvest and control our fisheries resources!

Scantrol has served the fishing industry for more than 30 years

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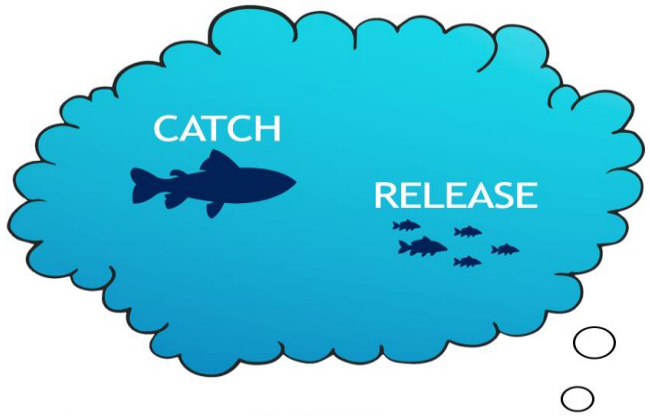
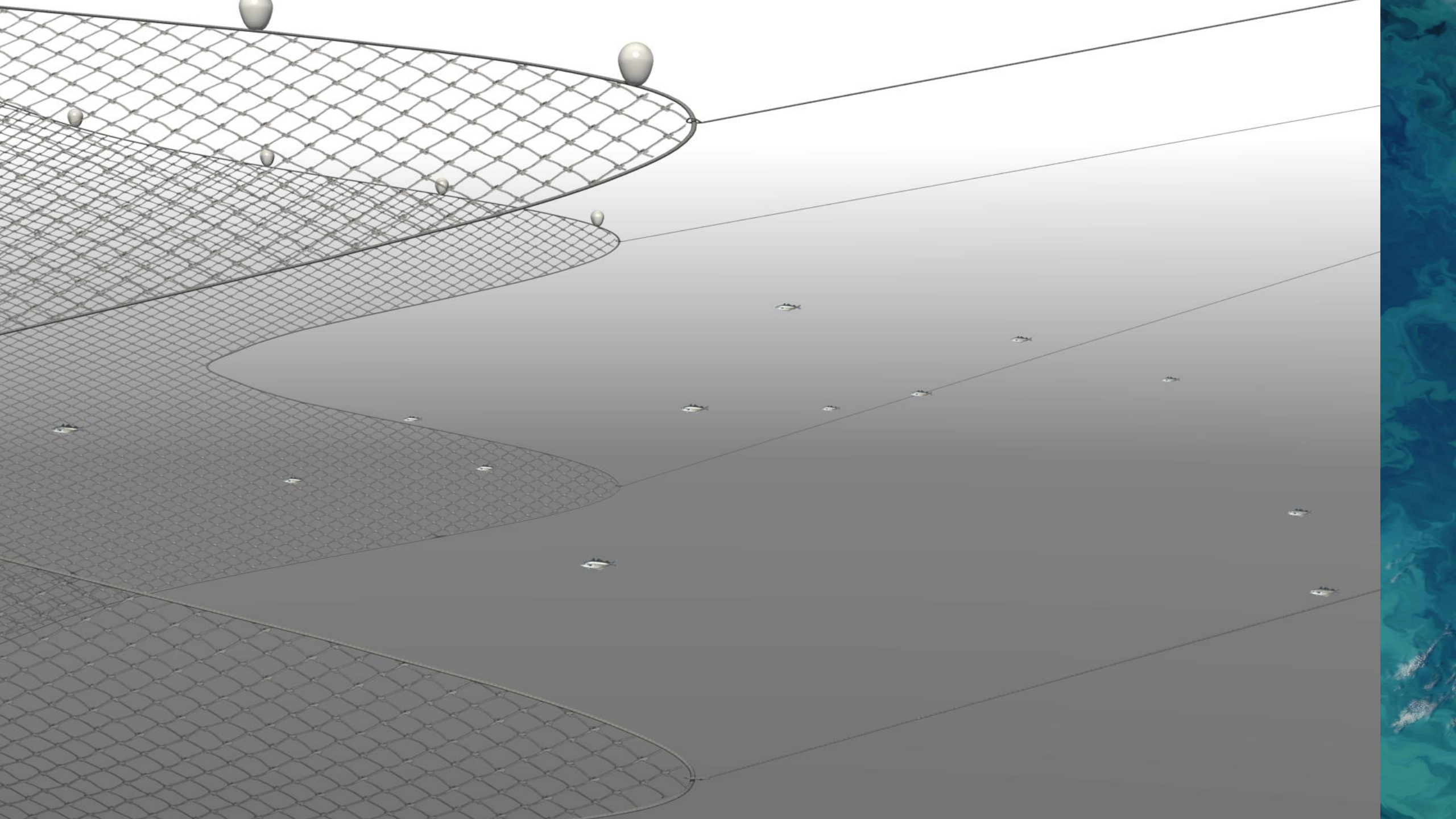
Deep Vision is your eyes under water

Our mission is to give fishers, researchers and regulators as much information as possible so that we can manage our precious marine resources in the best possible way.





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Deep Vision for marine research

No Catch – Just Data

Dr. Huyngbeen Lee:
The biggest change is eco-friendly research that does not catch fish when operating trawling equipment.

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We have a database of millions of images of fish that we now use to train Deep Vision for the commercial fisheries.

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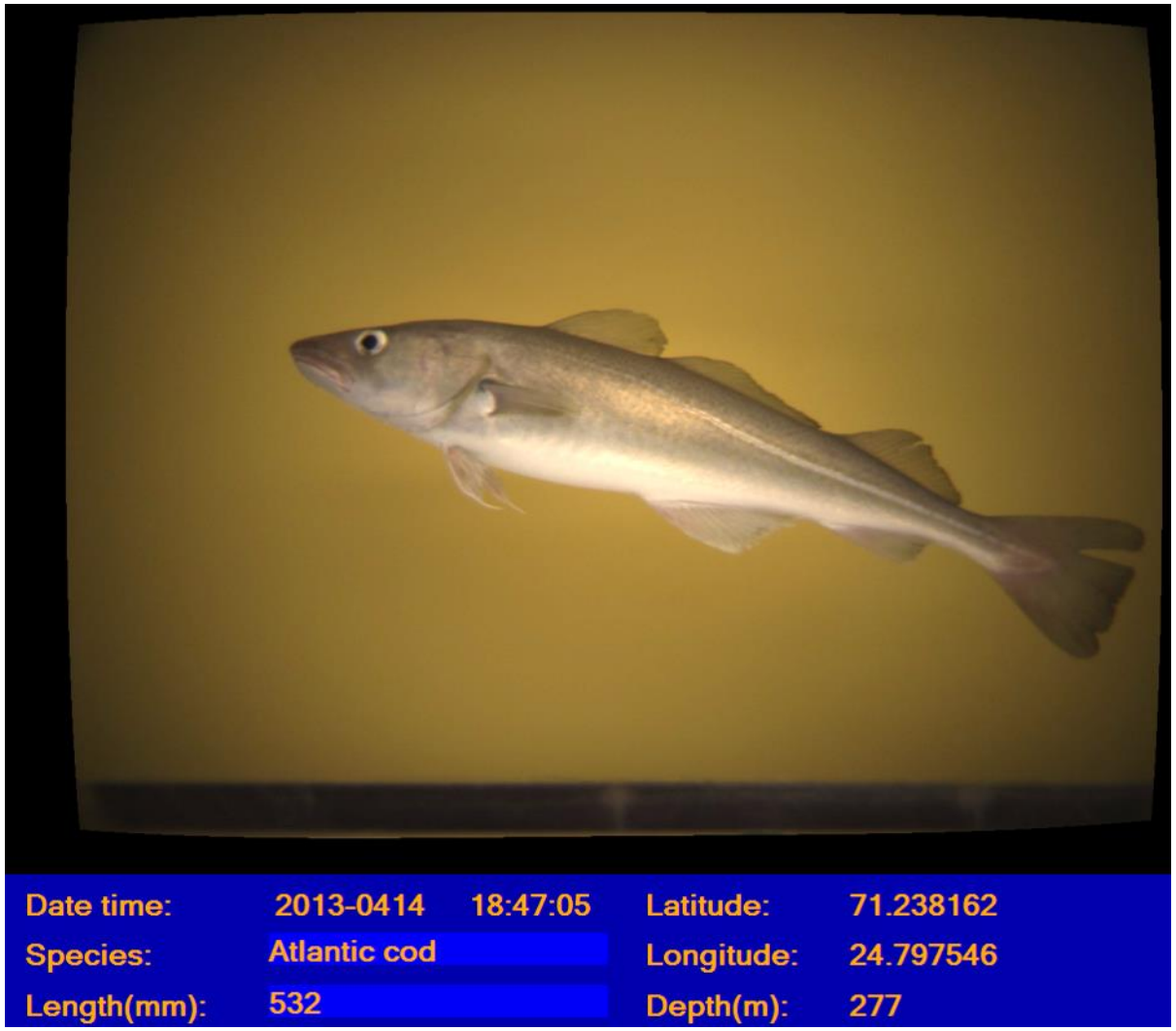
Cod



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Lumpsucker

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Shrimp

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Octopus

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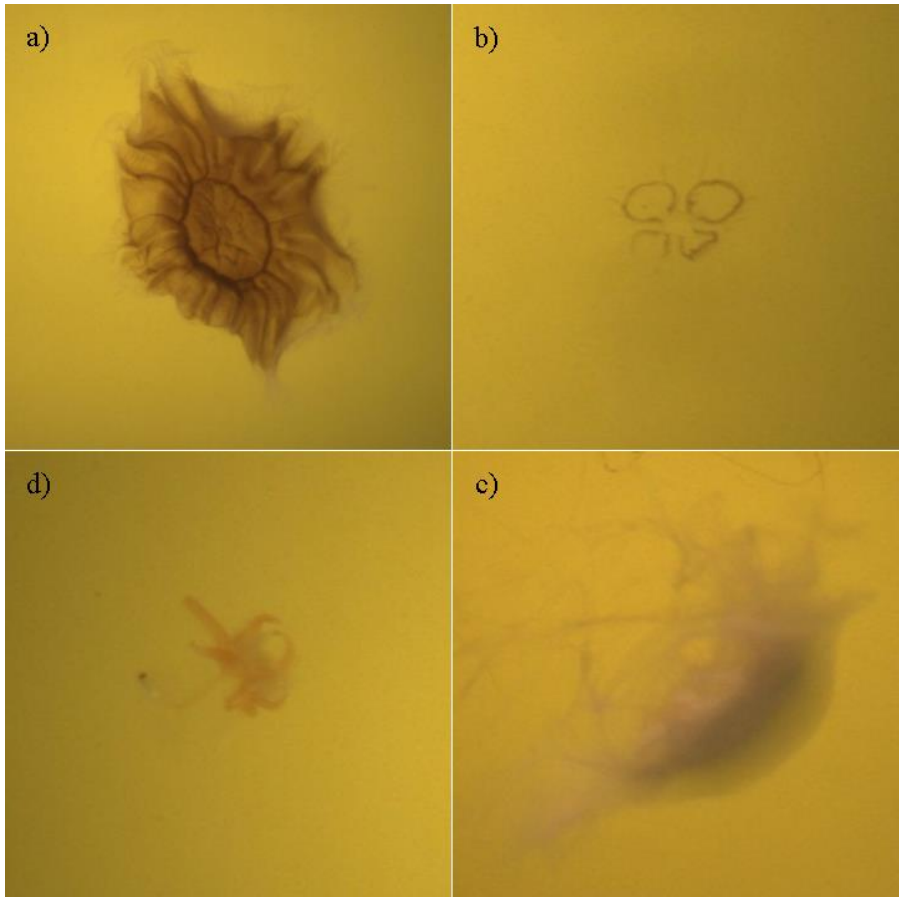
Jellyfish



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Juvenile fish

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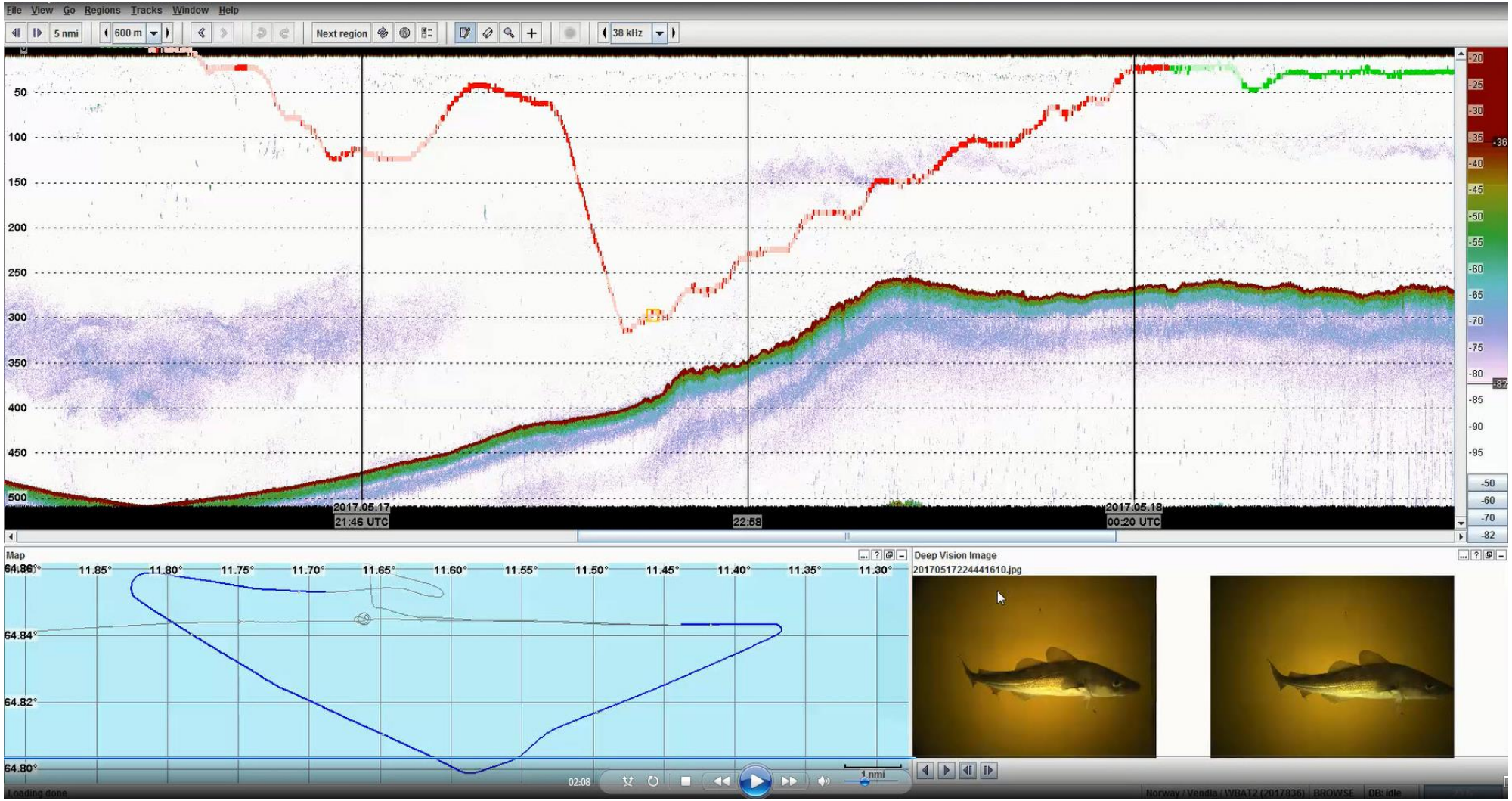
Deep Vision helps interpret acoustic data



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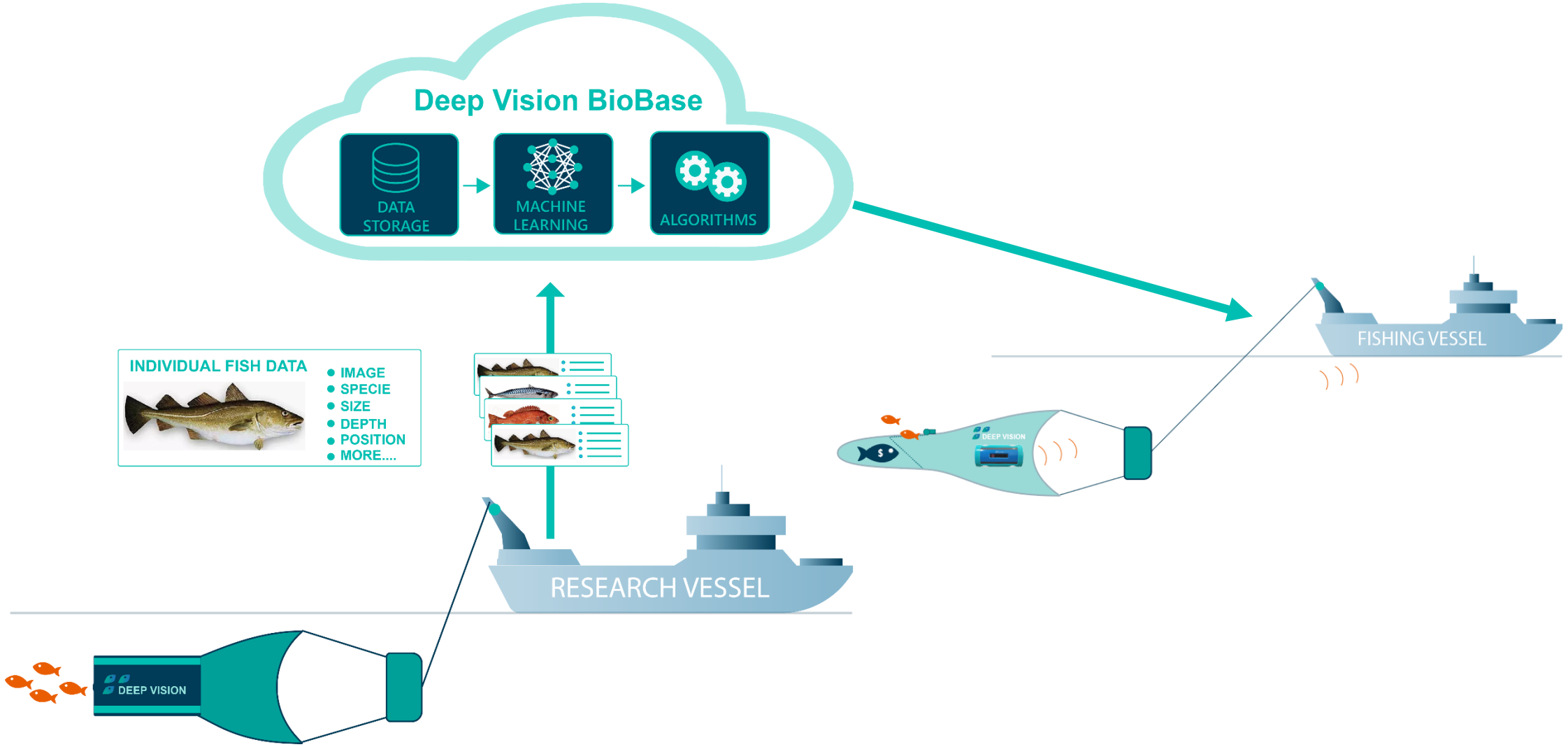
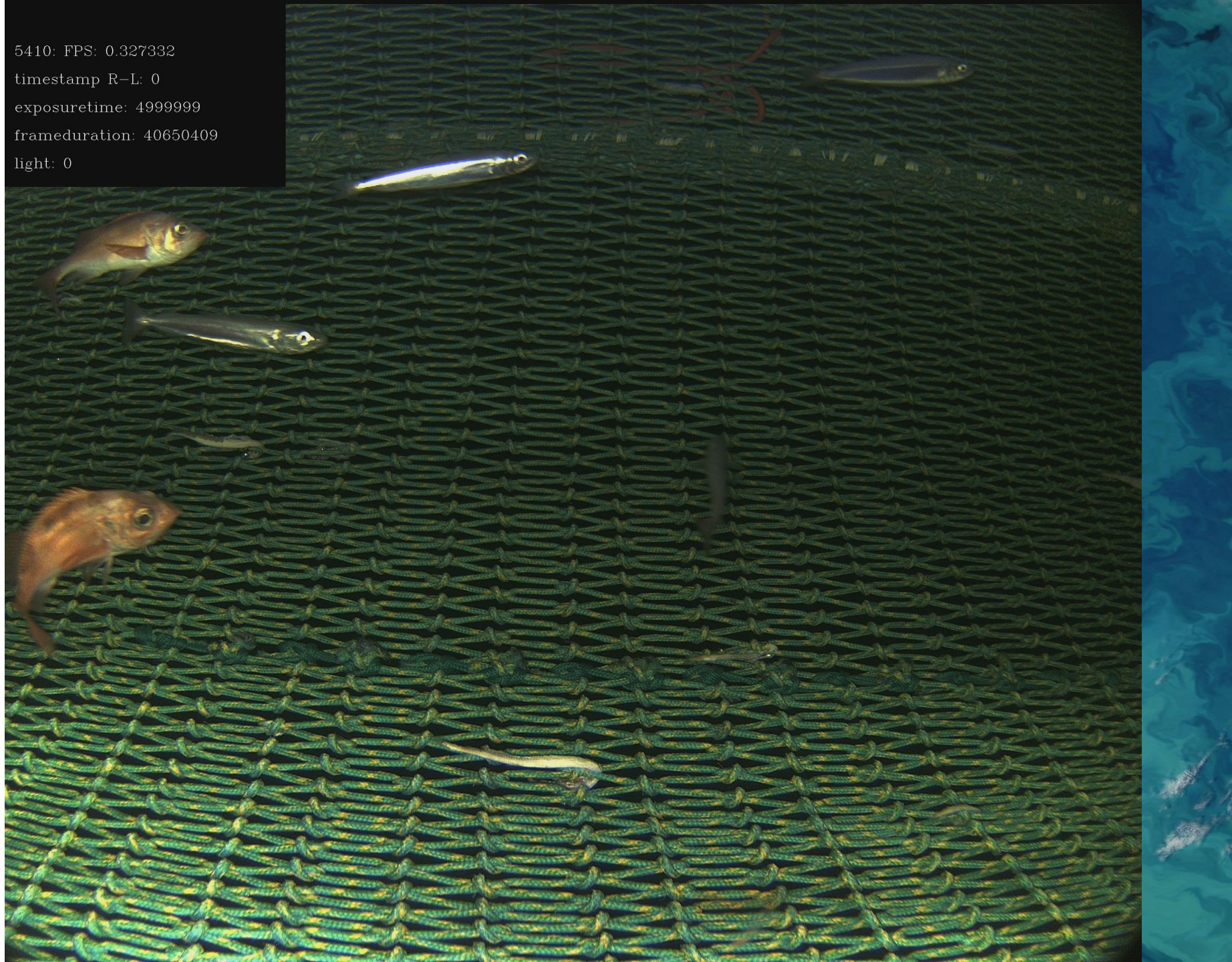

Deep Vision BioBase
DATA STORAGE
MACHINE LEARNING
ALGORITHMS
INDIVIDUAL FISH DATA
IMAGE
SPECIE
SIZE
DEPTH
POSITION
MORE....
FISHING VESSEL
RESEARCH VESSEL
DEEP VISION
DEEP VISION

DEEP VISION

Deep Vision for commercial fisheries

DEEP VISION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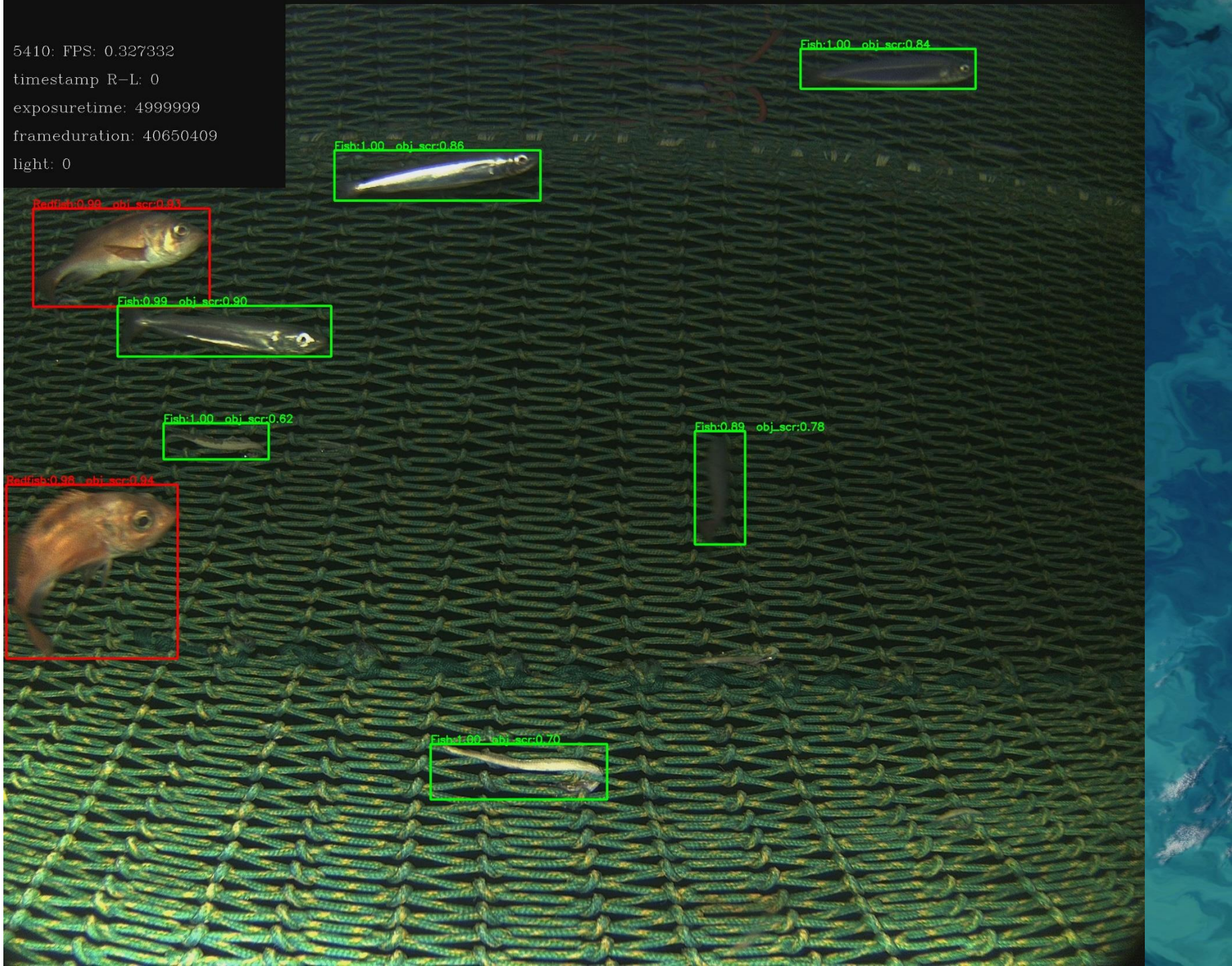
DEEP VISION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Redfish:0.99 obj_scr:0.93
Fish:0.99 obj_scr:0.90
Fish:1.00 obj_scr:0.62
Fish:0.89 obj_scr:0.78
Redfish:0.96 obj_scr:0.94
Fish:1.00 obj_scr:0.70

DEEP VISION

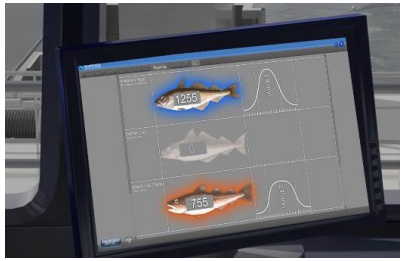
Developed in three stages

Stage 1: Deep Vision CatchView Sensor

- Image capture and offline analyses on board

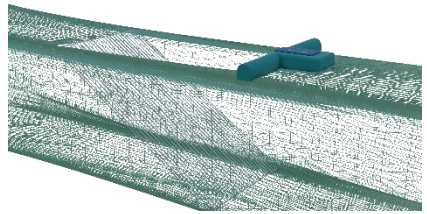
Stage 2: Deep Vision Live Catch Monitor

- Real time catch information on the bridge



Stage 3: Catch / Release

- Catch and release mechanism controlled from the vessel



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Deep Vision will make it possible to choose the species and size of fish so that we can:

- Fish more efficiently and reduce fuel consumption
- Catch only the fish that we need
- With the best possible quality
- To the best price for the fisher
- Reduce bycatch
- Manage our fisheries resources more sustainably

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Where are we going from here?

- Modular system where you can add sensors specific to your data needs
- Solve problems specific to each fishery
  - Target species
  - Reduce bycatch
  - Target or avoid sizes
  - Reduce illegal discards
- Pave the way for tomorrow's resource management
  - Live data about the fish being caught
  - Target extraction of resources to certain size segment to improve the maximum sustainable yield (MSY)
- Contribute data to traceability systems
- Collect data from the commercial fleet to improve resource management
  - The Norwegian reference fleet

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How can you use the Deep Vision technology to target IUU fishing?

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12 RESPONSIBLE CONSUMPTION AND PRODUCTION

14 LIFE BELOW WATER

13 CLIMATE ACTION

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