

**Precision-fishing and real-time
management driven by high quality
real-time data as a viable alternative
to prohibition**

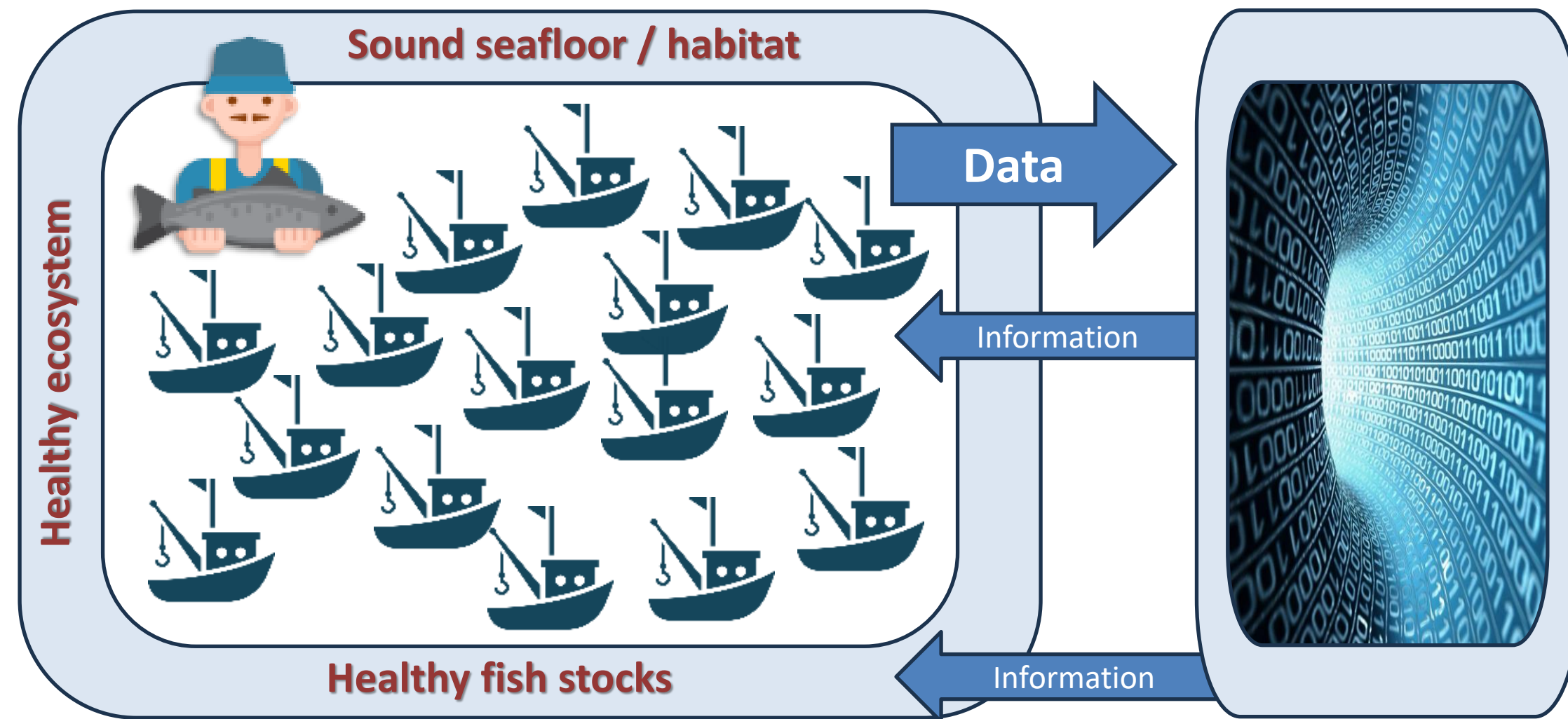
A case of co-management in Belgium

**A future for demersal
mixed fisheries ?**

Back to basics

Imagine a fishery without rules

Imagine a fishery without control and enforcement



The social dimension should not be neglected



The CFP

**QUO VADIS COMMON
FISHERIES POLICY?**

=> The Belgian case

Build trust - the Covenant -

Building trust as a precondition for open data

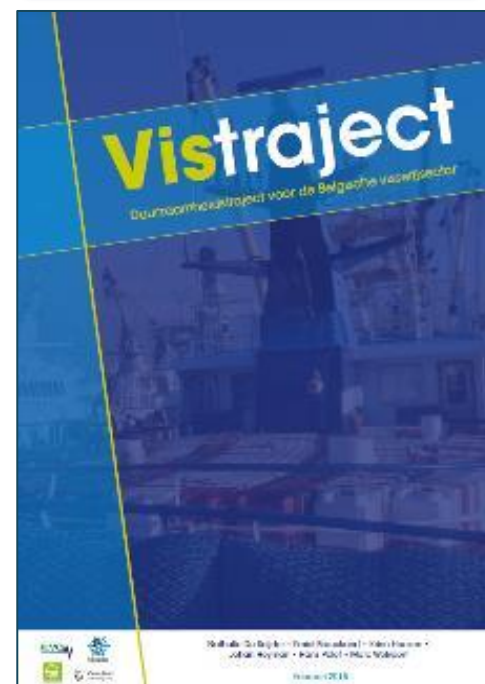
30 August 2011

The covenant for the promotion of a sustainable Belgian fishing sector is signed



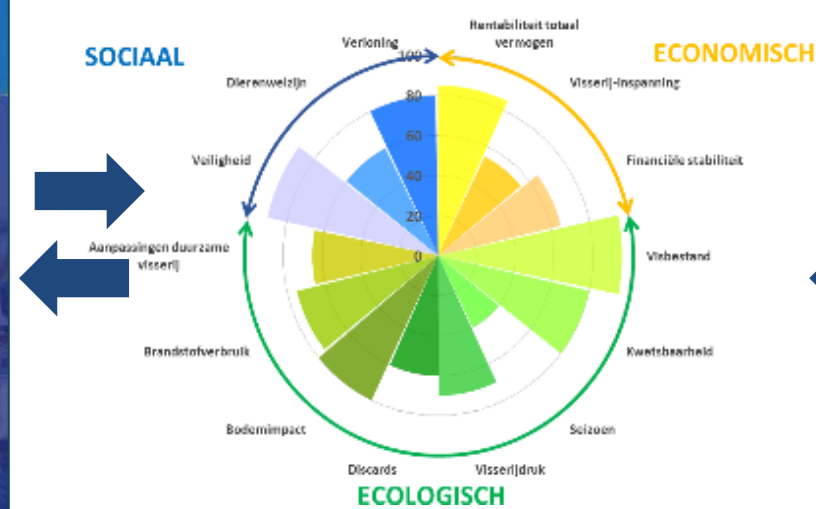
Why ?
- efficient fishing
- fair treatment in terms of quota & impact

Vistraject
= the challenge



Goals and actions for a sustainable fishery as written by the local NGO

VALDUVIS
= the tool



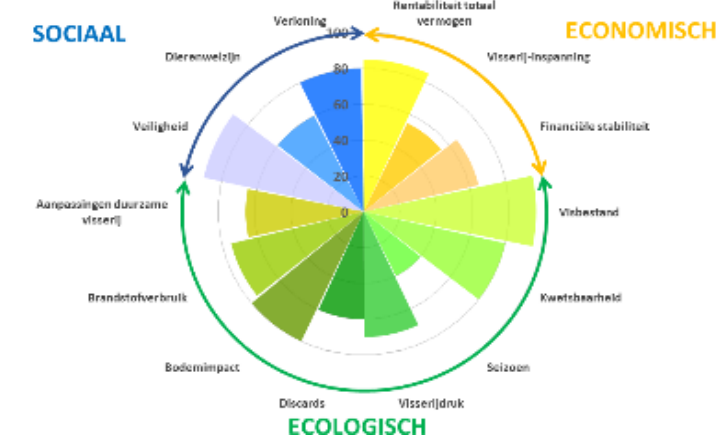
Indicator-based sustainability assessment tool

Visserij
Verduurzaamt
= the FIP



A fisheries improvement program that gives market access

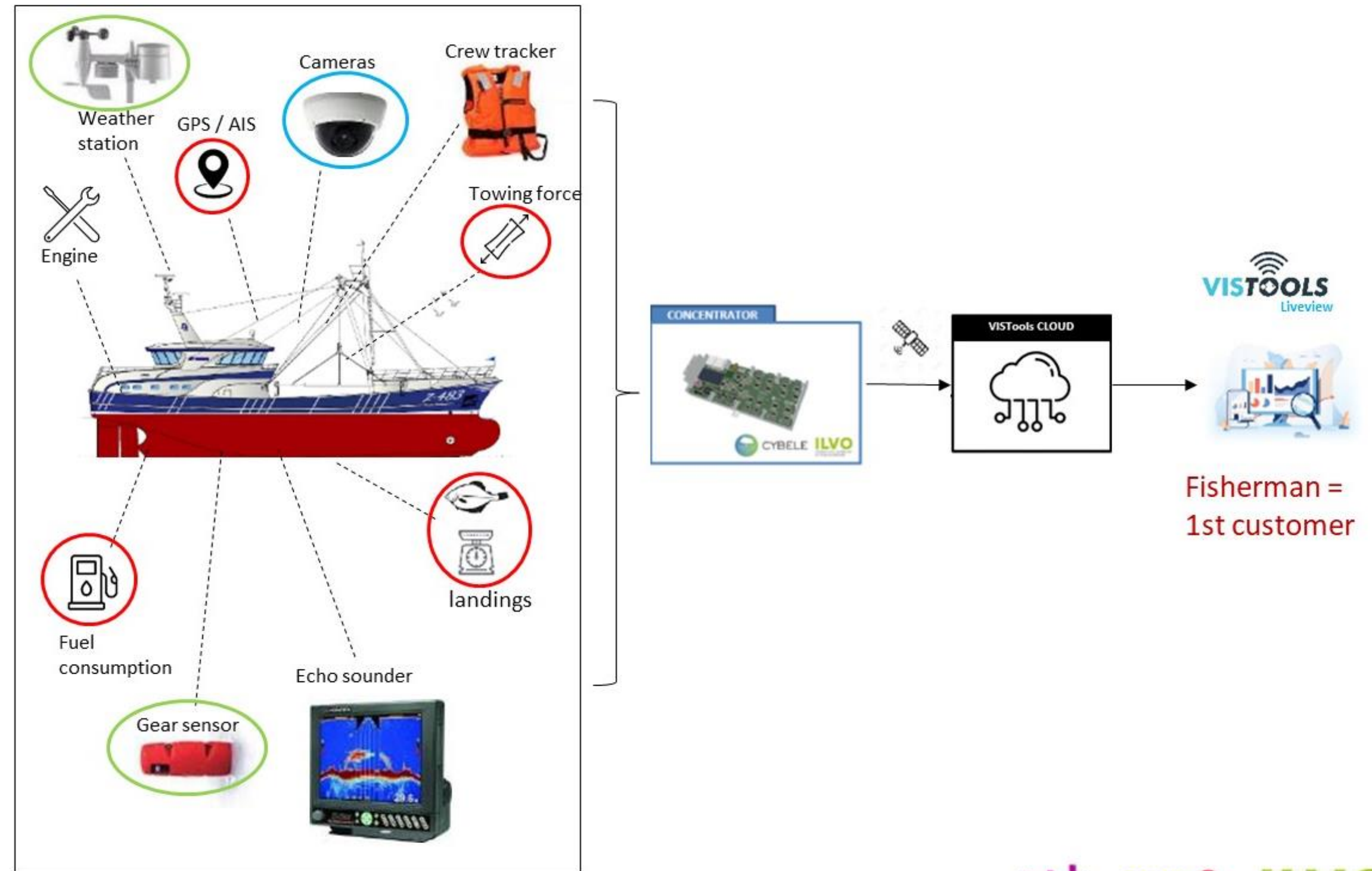
1 indicator on data



Delivering data to science adds to the sustainability score

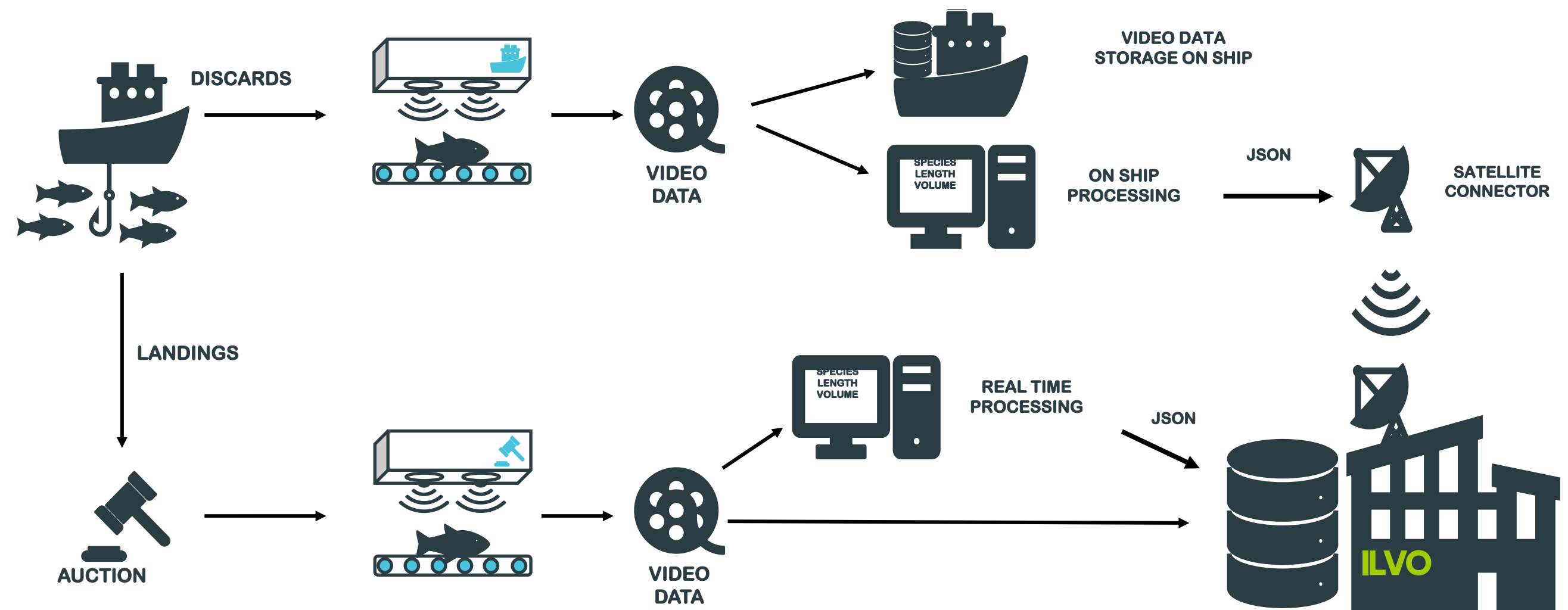
The data

Vistools: How does it work ?



The data

Camera's on board for scientific purposes



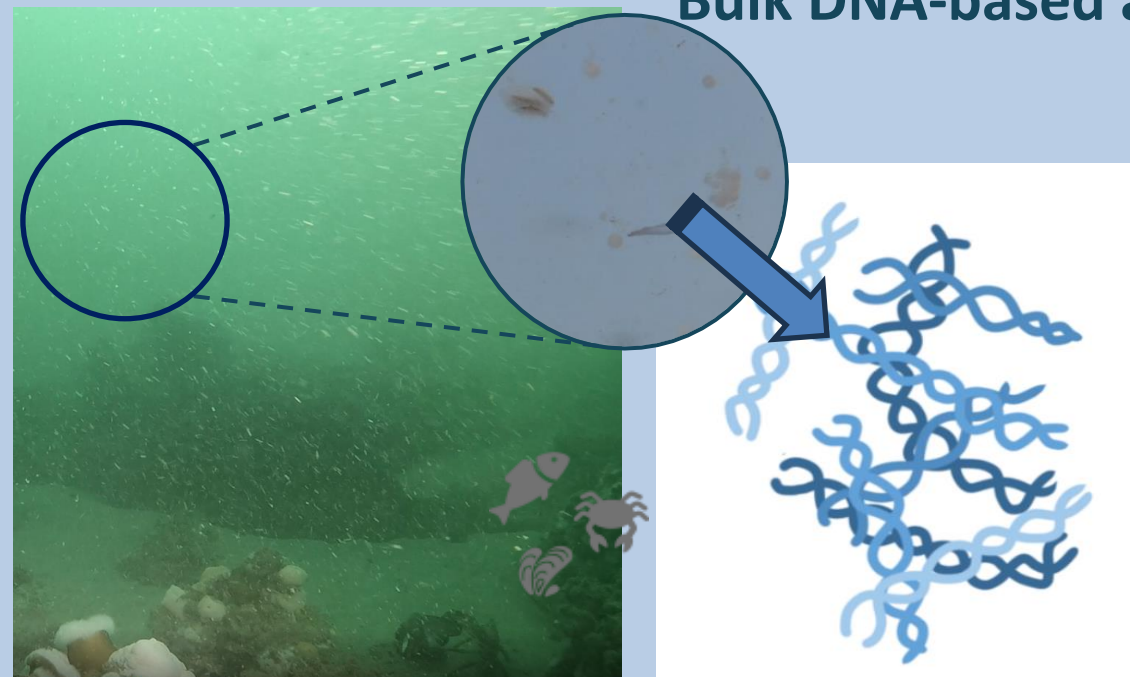
The data













eDNA as a tool for biomass estimation & hot spot detection

Automated eDNA sampler for fishing vessels



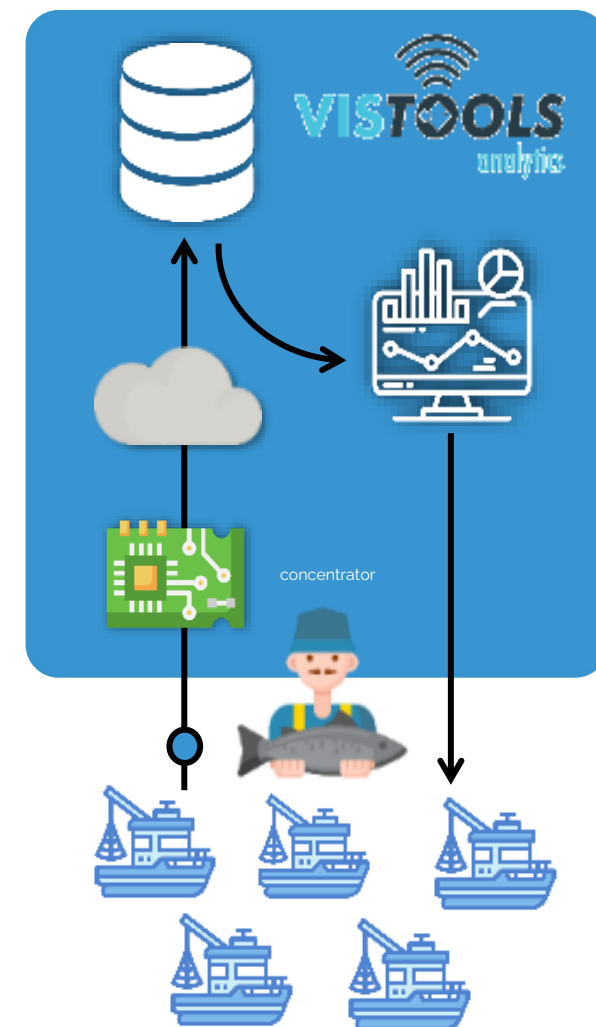
Bulk DNA-based analysis



| Amplicons | Raw sequences | Identification |
|---|---------------------|---|
|  | GCCTTAATTAATGAATCTT |  |
|  | ACTGAAGCGACTGAAGCGT |  |
|  | GAAGCGCGTTTAGGTCGT |  |
|  | GTTTAACTGAAGCGTCTT |  |
|  | GGTCGTGAAGAAATTTAT |  |
|  | GAAGCGTTTACTGAAGCGT |  |

Digital twin

ILIAD-project: Belgian fisheries case



Models

Visualisation tools

Data

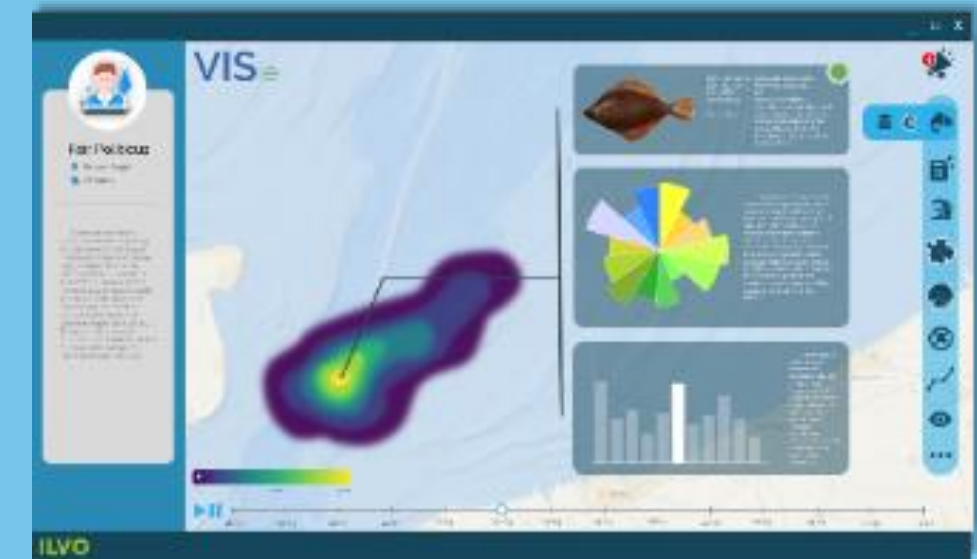
data management

Data

Visualisation tools

Models

Iliad Digital twin



Tools for the fishers, the manager & the scientist:

- More reliable stock assessment
- Real time stock evaluation
- Real time catch predictions
- Discard risk assessment
- eDNA hot spot detection
- Real Time Incentives
- Ecosystem approach

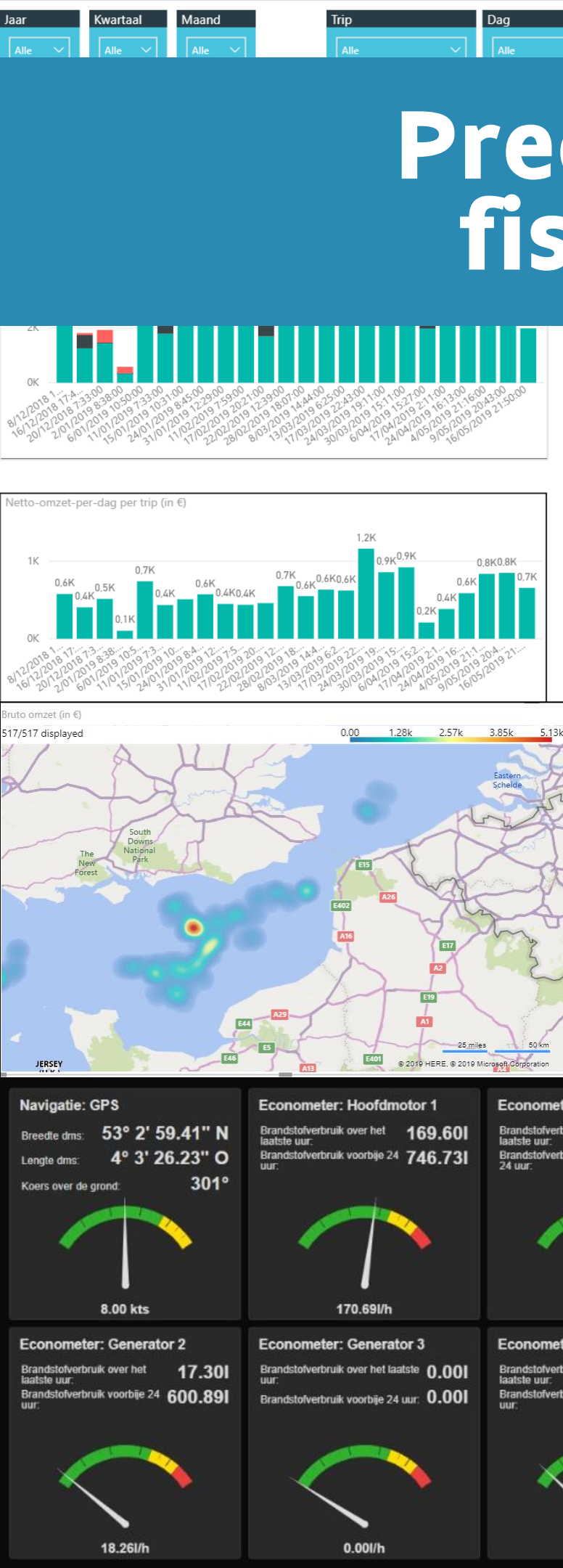


Precision fishing

What is precision fishing

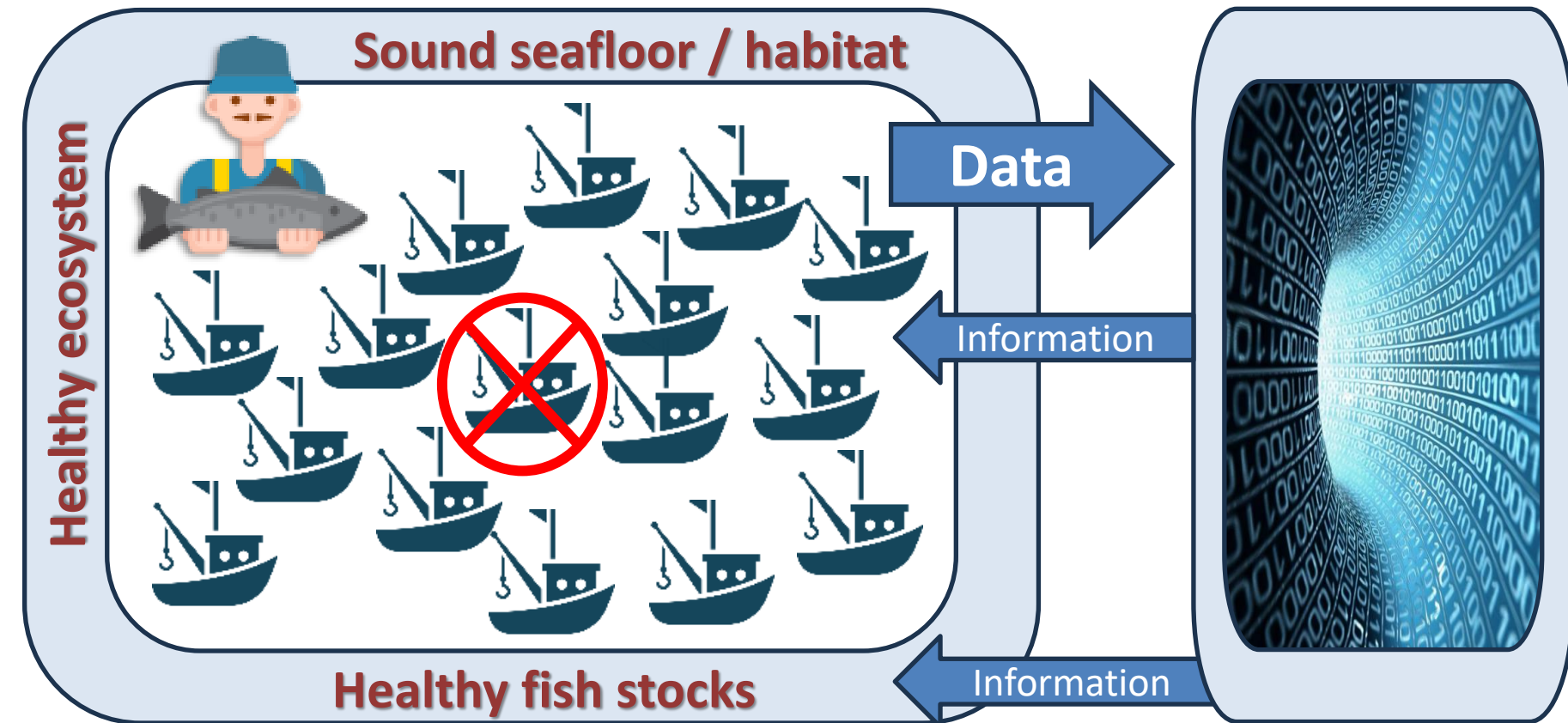
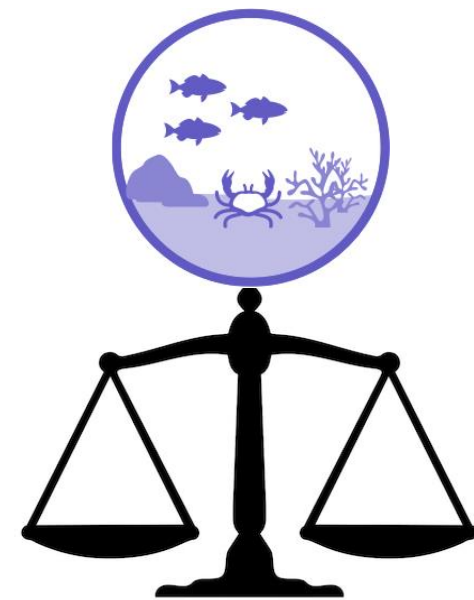
Precision Fishing can be defined as the use of advanced tools and technologies to optimise fishing operations and management (Costello, 2016).

Need for data, technology & innovation



Back to basics

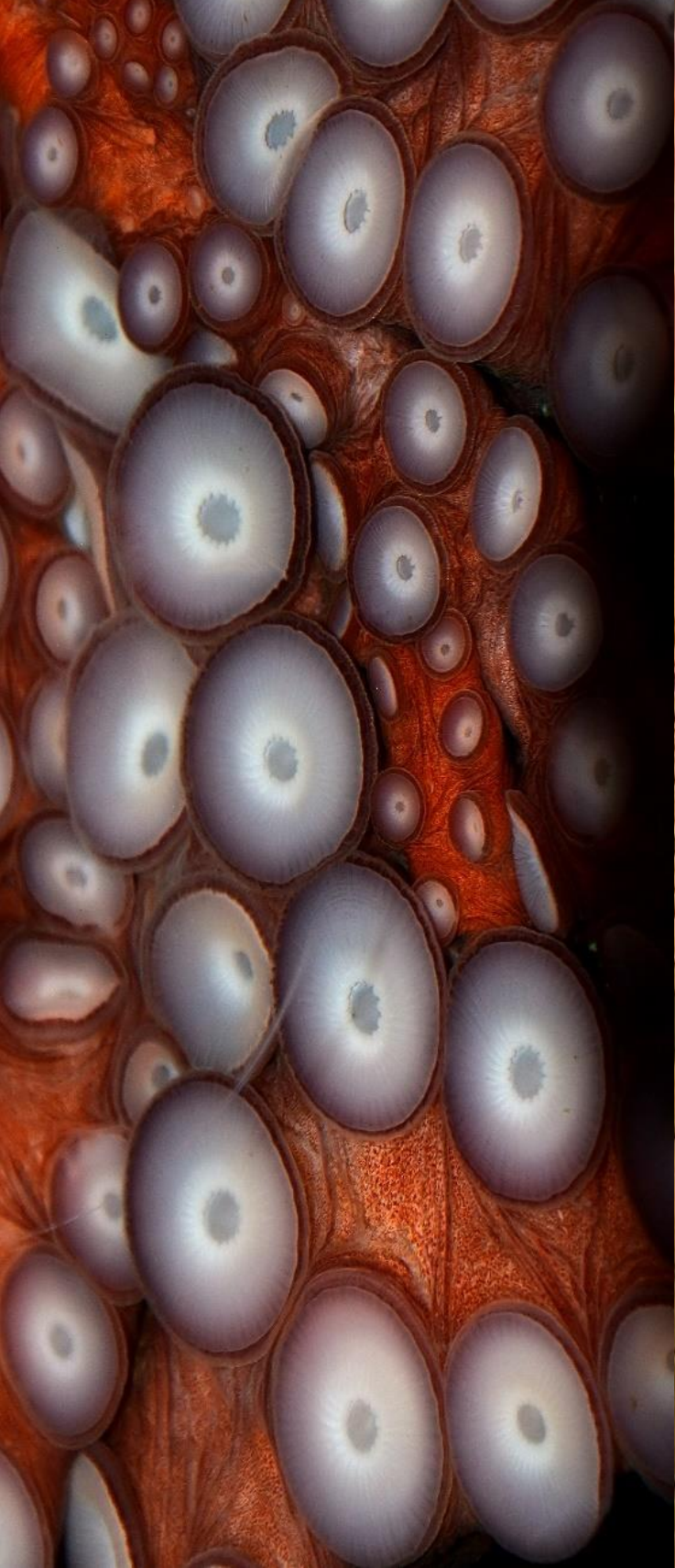
A fishery without control and enforcement ?



The innovation in management

- goes bottom up,
- is data driven,
- leads to management measures where & when they are needed
- and where & when they are effective
- and avoids broad brush measures.

Conclusions



- Fisheries management today often neglects the social dimension which creates mistrust in the industry.
- When there is trust & value in the data, fishermen will share.
- These data allow precision fishing & a digital twin of the fishery.
- This is a sound basis for alternative management with minimum C&E.

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**Thank you for
your attention!**