

Portfolio of Project Factsheets (Fisheries)

A Horizon 2020 funded project
Full project title: ERA-NET Cofund on Blue Bioeconomy - Unlocking the potential of aquatic bioreources (BlueBio)

Website: www.bluebioeconomy.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 817992

Project start date: 1 December 2018

Duration: 66 months



Overview

These factsheets outline the outputs and commercialisation needs for the 36 BlueBio funded projects as of November 2023. This includes 17 projects from the cofunded call (🇪🇺), 9 projects from the 1st additional call (🇩🇪), and 7 from the 2nd additional call (🇮🇹).

Each factsheet contains the following information:

- Project Name
- Brief description/tagline
- Relevant Blue Invest sectoral opportunity icon (see next page for description)
- Website (if applicable)
- Country flags of industry partners in the consortium
- Outputs (including Technology Readiness Level (TRL), brief description, Intellectual Property Rights (if provided))
- Commercialisation Needs or Next Steps

More information on the projects available on www.bluebioeconomy.eu

Blue Invest Sector Opportunities

Aquaculture



Aquafeed



Broodstock



Disease battling
& fish welfare



Equipment



Rearing/
Harvesting

Blue Biotechnology



Biofuels



Nutraceuticals



Cosmetics



Pharmaceuticals



Food & Feed



Waste Reduction



General

Blue Biotechnology



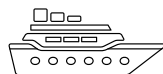
Fishery Services



Fishing Gear



Fishing



Ship Equipment



BIOZOOSTAIN

Sustainable utilization of marine bio resources to produce high quality food-first products and develop prediction tools for the best targeting of catching hot-spots

<https://healthsciences.hi.is/biozoostain>



**Project consortium
includes 2 enterprises:**



Portfolio of Outputs and Commercialisation Needs

Outputs

Updated Industrial Processes



TRL 6

Industrial processes updated to allow the collection and processing of zooplankton as a side-stream from pelagic fishing.

Product Prototypes



TRL 4

Prototypes developed based on cold extracted oil from *Calanus finmarchicus*, optimised for safety and beneficial lipid profiles.

Prediction Tools for Identification of Hot-spots



TRL 4

Catch data matched with optimal zooplankton raw material characteristics to identify geographical and seasonal catching hotspots for Atlantic mackerel.

Spectroscopic Prediction Tools



TRL 4

Fast, non-destructive spectroscopic methods applied to assess quality of processing streams and prototypes.

Commercialisation Needs

**Detailed
analysis of raw
materials**

**Testing of
updated
industrial
processes**

**Analysis of
potential
health effects
of prototypes**

**Life Cycle
Assessments of
original and
updated
processes**

**Validation of
prediction
models**



**Preservation of
underutilized fish
biomasses for improved
quality, stability and
utilization**

<https://profius-project.com/>

Portfolio of Outputs and Commercialisation Needs



**Project consortium includes:
2 SMEs & 1 Large Enterprise**



Outputs

**Preservation
methods**



TRL 5/6

Lumpfish Roe and
Carcass, no
relevant IPR

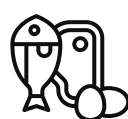
**Processing to
production of gelatin
and collagen**



TRL 6

BioPol IPR

**Processing to
production of FPH**



TRL 5

**Fish feed from tuna
side-stream**



TRL 5

Work in Malta for use
by Maltese tuna
industry

Commercialisation Needs

**Testing in
controlled RAS
systems (ABT)**

**Production
facilities for
gelatin and
collagen
production**

**Lumpfish
biomass e.g.
from salmon
farms**

**Use of
sidestreams
from gelatin
and collagen
production**

**Networking
with industry
e.g. feed
companies, RAS
designers**

Smart solutions for
advancing supply systems
in blue bioeconomy value
chains

<https://www.sintef.no/en/projects/2021/smartchain/>



**Project consortium
includes 2 SMEs:**



Portfolio of Outputs and Commercialisation Needs

Outputs

Simulation Model



TRL 3

Proof of concept simulation model
for sustainable utilisation,
production planning, logistics
optimisation and traceability to
facilitate the transfer of bio-
resources in fisheries and
aquaculture value chains.

Data Modelling



TRL 2/3

Data modelling of the
blockchain-based
traceability system and
the key data for the
seafood supply chain.

Sustainability and Supply Chain



TRL 3

Indicators for sustainability
assessment and supply-
chain decision making.

Processing Co-Streams



TRL 4

Optimised scaled
technological solutions for
processing co-streams into
high-value and functional
ingredients (marine collagen
production).

Next Steps

**Capacity
Building**

**Raising
Awareness**

Upscaling

**Increased
stakeholder
involvement**

System Design



Traceability and quality
monitoring throughout
the fish value chain

<http://tracemyfish.hi.is/>



Project consortium
includes 2 SMEs:



Intellectual Property Rights of components of the iFMS belong
to **Videometer** (SME) and **SCiO** (SME) as indicated below.

Portfolio of Outputs and Commercialisation Needs

iFishManagement System

Risk assessment
framework for fish safety



TRL 5

Ready to be
incorporated into
prototype solution

Spectral imaging-based
detection devices



TRL 6

VideometerLite:

- portable & wireless
- 365 - 850nm

VideometerLab:

- 365 - 970nm



AI models for fish
safety assessment



TRL 5

- Tests with realistic
artificial data complete
- Integrated as part of
the iFMS framework

IP for AI models belongs to

- *Videometer (developed in
VideometerLab software)*
- *SCiO (developed in SCiO
Qvantum)*

Data platform for
fish safety



TRL 5

SCiO Qvantum:

supports AI-powered
analytics for facilitating
decision making in food
systems

SCiO

VideometerLab Software:

desktop software for analysis and
processing of spectral images

Videometer Cloud Workspace:

cloud solution for data structuring
and storage

Commercialisation Needs

**Generating
Awareness**

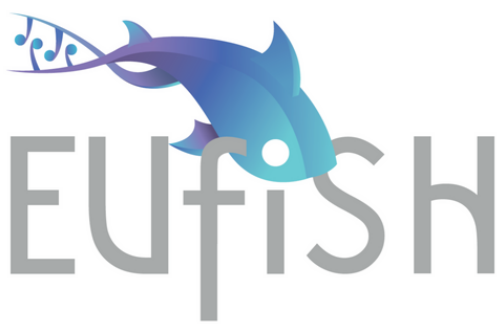
**Interviews
with end
users in
seafood value
chain**

User testing

**Participation
in events and
forums**

**Alternative &
innovative
channels for
sales**





European fisheries
enhancement through
"Omic" characterisation
and innovative seafood
production from
underutilised fish species

Portfolio of Outputs and Commercialisation Needs

https://www.plumtri.org/Project_EuFish-SustainableGrowth



Project consortium includes 1
large enterprise and 1 SME:



Outputs

Underutilised fish database



Collation of data on ecology,
biogeography, molecular
species identification,
microbiota composition,
nutritional and sensorial
properties, and chemical
contamination.

Innovative seafood products



Innovative seafood
products from
underutilised fish species
and rest raw materials
achieving zero waste.

Aquafeed



Novel aquaculture feeds
produced by using
recovered fish waste
achieving zero waste.

Web portal



Platform for sharing
information with
stakeholders, SMEs, and
consumers to promote
underutilised fish species.

Commercialisation Needs

**Market
analysis**

Upscaling

**Stakeholder
engagement**

**Additional
feeding trials
(more species)**

Improved processing to
enhance seafood
sidestream valorisation
and exploration

<https://bluebioeconomy.eu/improved-processing-to-enhance-seafood-sidestream-valorization-and-exploration/>



Project consortium includes
2 Medium Enterprises:



Portfolio of Outputs and Commercialisation Needs

Outputs

Optimised extraction
solutions



TRL 6

Technological
solutions for improved
extraction of bioactive
proteins, fish oil and
chitosan.

Bioactive Protein
Ingredient



TRL 6

Extracted from
underutilised fishery
and crustacean
sidestreams.

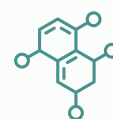
Fish Oil



TRL 7

Extracted from
underutilised fishery
sidestreams.

Chitosan



TRL 6

Extracted from
crustacean
sidestreams.

Commercialisation Needs

Upscaling

Market
Analysis

Stakeholder
Engagement

Reducing
environmental impact
and greenhouse gas
emissions in
commercial fisheries

<https://www.sintef.no/en/projects/2022/rightfish/>



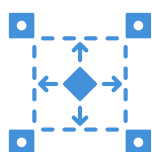
Project consortium
includes 1 SME:



Portfolio of Outputs and Next Steps

Outputs

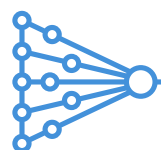
Scale Modelling
process/methodology



TRL 6

Scale modelling criteria developed for demersal trawls to enable accurate interpretation of flume and towing tank experiments at full scale.

Low impact environmentally
friendly towed gears



TRL 7

Improved tow gears which have reduced drag and lower impact of seabed-contacting components.

Next Steps

Scale model
flume tank
trials

Full scale
experiments
at sea

Fishing and
engineering
performance

Environmental
assessment

Socioeconomic
assessment