

# AQUAculture and Agriculture BIOmass side stream PROteins and bioactives for Feed, FITness and health promoting nutritional supplements

## AQUABIOPRO-FIT



### The project

AQUABIOPRO-FIT is an four-year, EU-funded project that will develop high-quality proteins and bioactives from European aquaculture, fisheries and agriculture by-products for applications in fitness, health and animal feed. AQUABIOPRO-FIT will address the challenges associated with taste, bioactivity, safety and consumer acceptance, to ensure that the products are of high quality and can be effectively brought to the market.

### The challenge

In Europe, only 50% of the 11 million tons of fish biomass, from fisheries and aquaculture, is used directly for human consumption.

As a result, there are potentially more than 5 million tons of protein-rich by-products available for higher value applications that are presently underutilized. AQUABIOPRO-FIT will promote the efficient utilisation of European aquaculture, fisheries and agriculture by-products in animal feed and nutritional supplement products for fitness and health. Overall, high-quality nutrients and bioactives will be obtained while aiming to reduce waste by 50%.

## **The scope**

The backbone of AQUABIOPRO-FIT is to utilize the aquaculture and fisheries by-products, test different processes for the production of marine ingredients that are naturally rich in proteins and bioactive compounds, and create nutritional 'elixirs' that target human health issues of today, namely

- anxiety/depression,
- body acidity and
- skin and hair improvement
- athletes performance improvement

AQUABIOPRO-FIT focuses on 6 types of ingredients that can be isolated from the by-products for applications in food, feed, cosmetics and pharmaceuticals:

- marine protein concentrates,
- $\omega$ -3 rich phospholipids and oils,
- bioactives (proteins, oligopeptides, amines, nucleotides and pigments),
- collagen,
- minerals and
- tunicate meal fractions (protein rich and cellulose).

## **The innovation**

The innovation potential of *AQUABIOPRO-FIT* includes:

- New approaches to producing high value products from processing biomass by-products of whitefish, pelagic fish, and farmed salmon, trout, sea bass and sea bream
- Utilisation of tunicate biomass, meals and fractionation ingredients as a novel source of ingredients for feed applications
- Implementation of non-conventional methods for sanitation, extraction, transformation and up-concentration of nutrients and bioactives.
- Novel tailored nutritional supplements for applications in sports nutrition, health and well-being

## **The impact**

- ✓ Creation of new cross-sector partnerships in bio-based economy cluster
- ✓ Development of a new bio-based value chain grounded in aquaculture by products
- ✓ Reduced environmental impact through more efficient utilisation of biomass by-products
- ✓ Strengthen Competitiveness & New Market Opportunities
- ✓ Job Creation and increase of European exports