EU R&D Project

FISH: AUTOMATED SORTING SYSTEM FOR FISH SKELETAL DEFORMITIES

POLYTECH SA. in cooperation with BIOMECHANICAL SOLUTIONS - BME and PLAGTON A.E., will proceed with the implementation of the project "***FISH*** *- Automated Sorting System for Skeletal Deformities of Cultured Fishes*" after submitting the research proposal which was approved by the ESPA 2014-2020 "Research-Create-Innovate" business program.

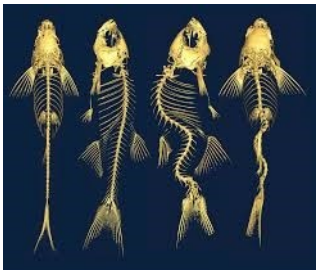
PARTICIPANTS

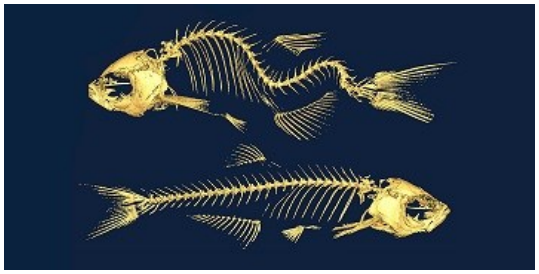
1. **POLYTECH SA**
2. **BIOMECHANICAL SOLUTIONS -BME**
3. **PLAGTON A.E.**

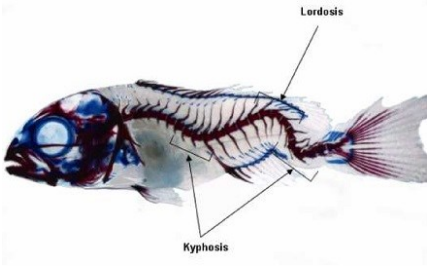
SCOPE

The presence of skeletal anomalies in farmed fishes is a constant world-wide problem in aquaculture and it entails economic and animal welfare issues. Skeletal deformed fishes have to be removed manually and repeatedly from production and products from these fish are often down- graded to filets or fish meal (with loss of profit). Nowadays, abnormal fish are removed from the stocks well before they reach to the final consumer (less than 2gr of mean individual weight). With the exception of the fish without an inflated swim bladder, which are easily selected by the salinity floating test, there is not any method for the reliable mass removal of specimens exhibiting the remaining deformities.

As a result, the latter are selected for manually, with significant increase of the personnel cost and delays of the production cycle. The threshold between commercially severe and non-severe deformities is empirically and subjectively defined by the hatcheries, due to the lack of a precise scale of quality that can allow connecting skeletal development to external morphology of the fish at the end of the hatchery and on-growing phases. Hence, the purpose of this project is to develop an integrated automated system for valid mass removal of farmed fishes with skeletal deformities based on vision analysis and shape pattern recognition techniques.







OBJECTIVE

This project aims to create a new product that is missing from the international market. Its aim is to reduce production costs, optimize the quality of produced fish, increase profits through competitive services and thus maintain and increase jobs. After a thorough search, there seems to be a variety shortage in the market. With the aim of making the final future product low-cost, the completion of the proposed project will supply the Partners with all the necessary research knowledge and know-how that can be exploited both commercially and scientifically and gain significant advantage over their competitors.