COLUMBUS project

Knowledge Transfer for Blue Growth: Aquaculture knowledge outputs and An Example Case Study

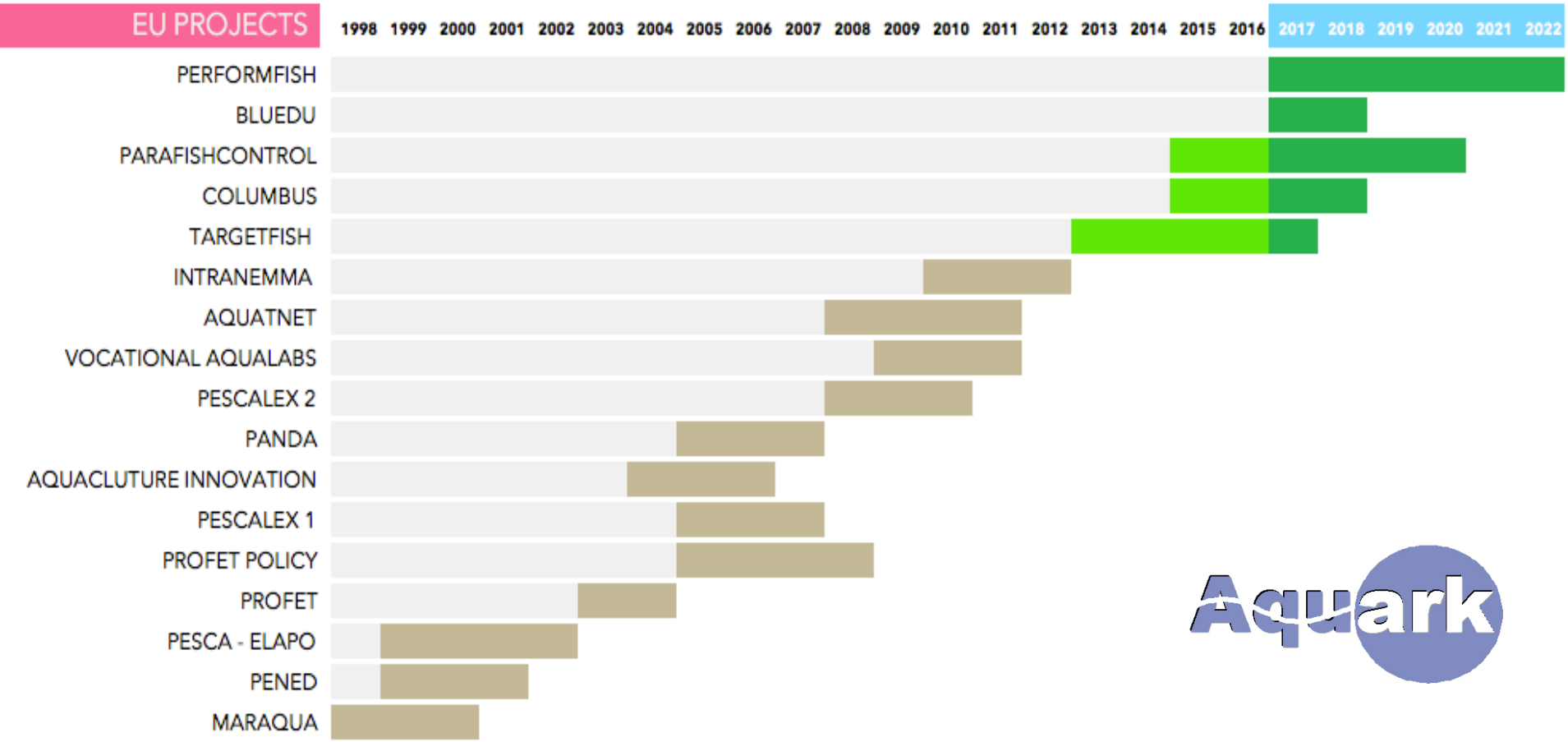
Panos Christofilogiannis
AQUARK
panos@aquark.gr

Annual Coordination Meeting 2017
17-19 January, Barcelona, Spain

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

Who we Are
AQUARK Experience in Applied Research
Innovation Transfer and Vocational Training

COLUMBUS
KNOWLEDGE TRANSFER FOR BLUE GROWTH



Aquark

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

Previous Work before COLUMBUS

COLUMBUS
KNOWLEDGE TRANSFER FOR BLUE GROWTH

Aquark

FP7 Funded Support Actions

Aquainnova

STAGES
CONNECTING SCIENCE TO POLICY FOR HEALTHY SEAS

Marine Genomics 4 Users

MarineTT

- **Improved methodologies and processes**
  - **Identification**
  - **Collection**
  - **Analysis**
  - **Transfer**
- **Systems**
  - ✓ Marine Knowledge Gate Portal – A one stop portal
- **Resources**
  - ✓ Step by Step Knowledge Transfer guide

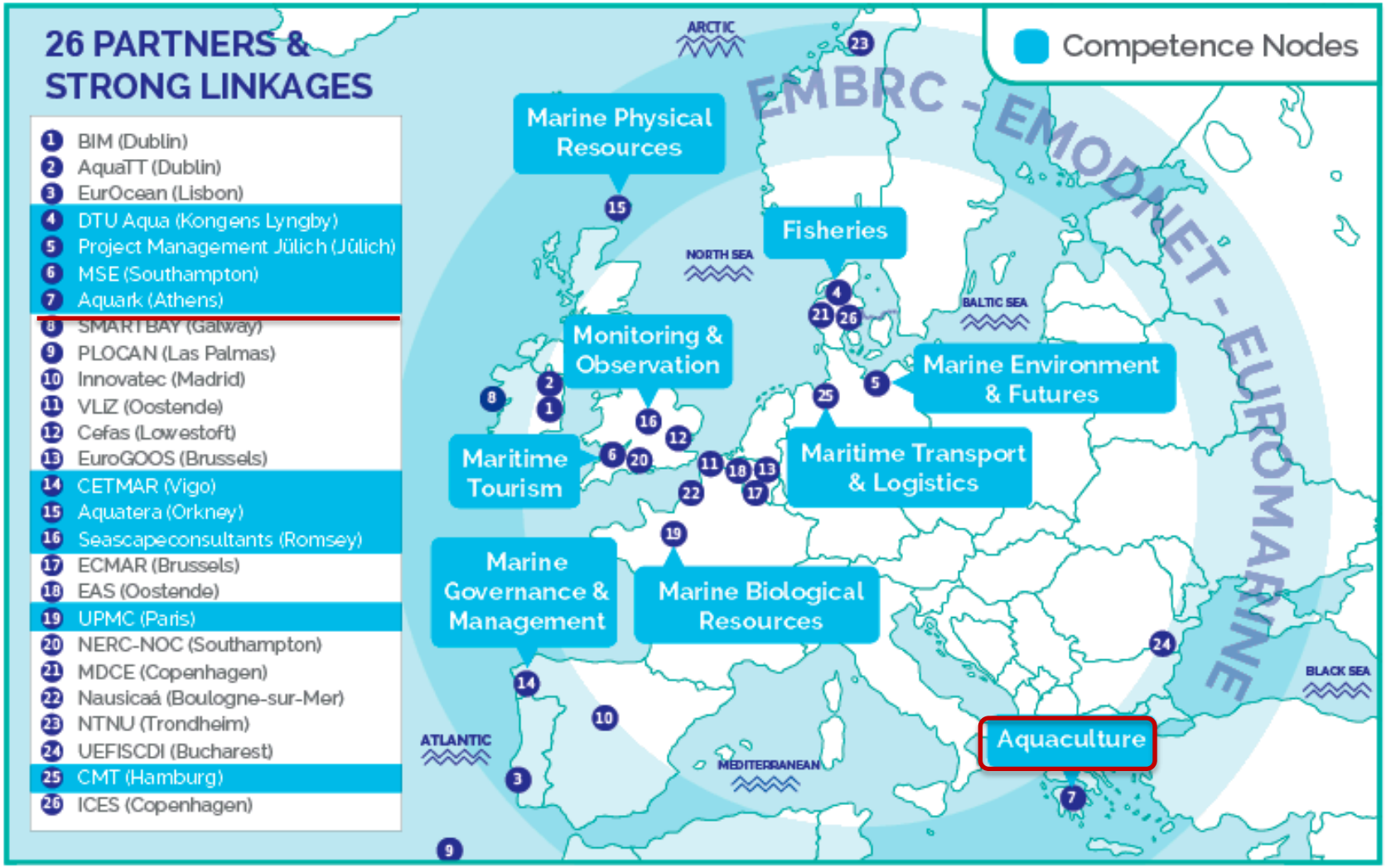
Aquark

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

COLUMBUS Consortium

COLUMBUS
KNOWLEDGE TRANSFER FOR BLUE GROWTH

Aquark



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

What European Commission aims for?

- **Evidence of EC research contributing** to Blue Growth and MSFD implementation
- **Up-skilled** marine scientific community in **Knowledge Transfer**
- **Increased awareness** among stakeholders of the **importance of Knowledge Transfer**
- Inputs on how to improve **research funding system for impact**
- **Celebrate Case studies of Knowledge Transfer**

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

What is a Knowledge Output?

"**Knowledge Output**"
A unit of knowledge or learning generated by or through research activity. They are not limited to **de-novo or pioneering discoveries** but may also include **new methodologies/processes**, **adaptations**, **insights**, **alternative applications of prior know-how**/ knowledge.

From the MarineTT project, precursor of COLUMBUS

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

Knowledge Management

COLUMBUS
KNOWLEDGE TRANSFER FOR BLUE GROWTH

Aquark

Assessment of the **"Uptake Readiness"**

Identification of Specific **"End -Users"**

Identification of possible **"Applications"**

"Knowledge Outputs" description (Type, IP, Competence, source)

Identification of individual **"Knowledge Outputs"**

Promotion of research projects/deliverables

Aquark

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

COLUMBUS
KNOWLEDGE TRANSFER FOR BLUE GROWTH

Aquark

COLUMBUS project

Case Study: FISH TEXTURE EVALUATION TOOL

Aquark

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

FISH TEXTURE EVALUATION TOOL

Description

- ✓ **Non-Destructive Textural Assessment of Fish Freshness**
- ✓ **FISH TEXTURE EVALUATION TOOL** is a prototype device that **measures the elasticity and firmness of the fish muscle** in cultured fish as **indication of freshness and quality** that is able to inform on the day of harvest and potentially give **indications of the impact of diet on the fish quality**.
- ✓ Developed under **ARRAINA FP7 project - Grant agreement no 288925 (www.arraina.eu)**
- ✓ **IP Owners (PATENT SUBMITTED / PENDING): Dr. Kriton Grigorakis (HCMR)**

  As. Prof. Dimitrios Dimogiannopoulos (TEI Piraeus)

Why prioritized for transfer?

- ✓ **Cost-effective, Fast, Non Destructive Tool that can reliably measure (numerical value) physical changes in fish, even in early freshness stages before bacterial spoilage occurs.**
- ✓ **Competitor methods (**Potentiometric measurement of dielectric properties of fish (Gil et al., 2007) or Various sensors measuring chemical products during post-mortem storage have the disadvantage of Sensitivity for later spoilage stages (they **measure spoilage instead of degree of freshness)**

How the target user was identified?

- ✓ AQUARK Team developed with the IP Owners a **Product Development Brief** with all targeted characteristics. AQUARK Team arranged for a meeting of IP Holder with **Dr Terence O'Carroll (BIM**) that offered to support with the cost of materials while AQUARK agreed to support part of the cost of the Industrial Designer
- ✓ AQUARK Team identified the **Industrial designer** need and passed with the IP owners through a detailed product specification process evaluating three industrial design teams before we selected **Mr. E. Tzevelekakos**

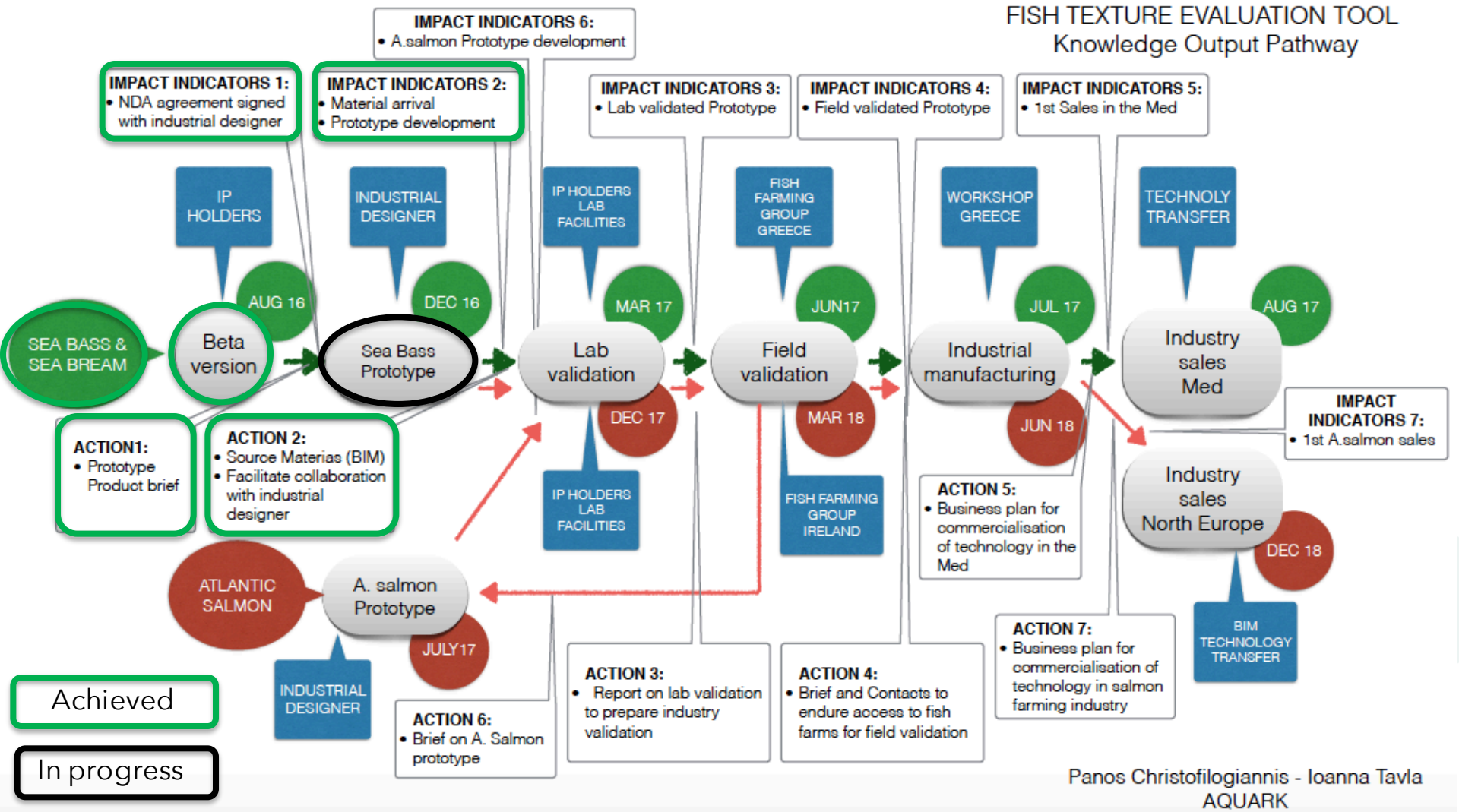
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

FISH TEXTURE EVALUATION TOOL

Knowledge Output Pathway

COLUMBUS
KNOWLEDGE TRANSFER FOR BLUE GROWTH

Aquark



Panos Christofilogiannis - Ioanna Tavla
AQUARK

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

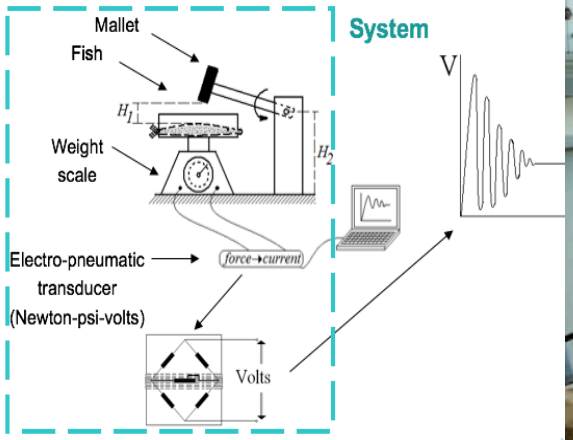
FISH TEXTURE EVALUATION TOOL

Knowledge Transfer Activity

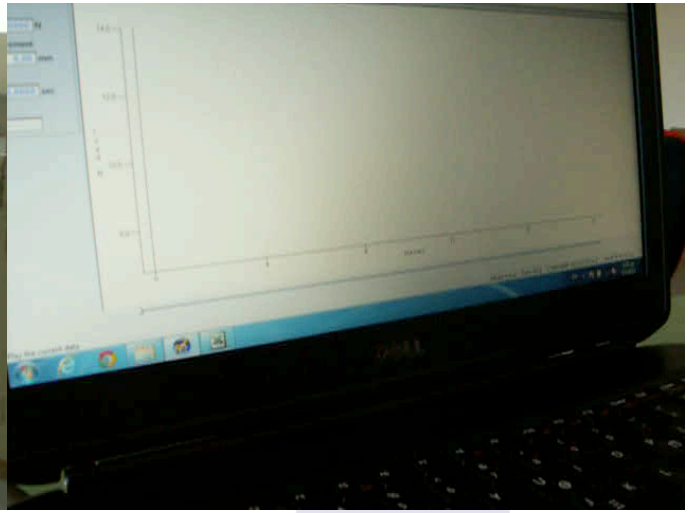
COLUMBUS
KNOWLEDGE TRANSFER FOR BLUE GROWTH

Aquark

From Lab Installation



Task 4.4. Novel method for assessing fish textural quality



to Prototype Industrial Design

Emmanouel Tzevelekakis
Industrial Designer
MDes Transportation Design Graduate, Coventry University

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

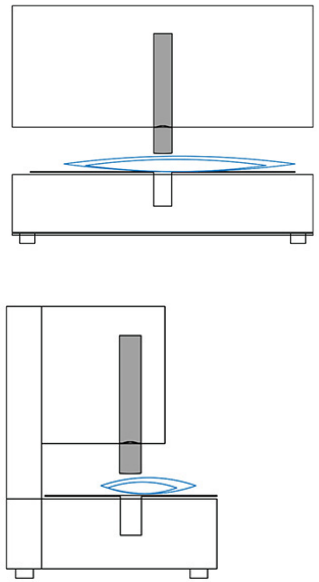
FISH TEXTURE EVALUATION TOOL

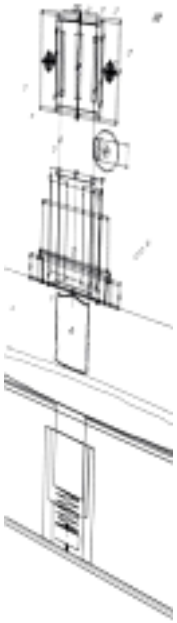
Knowledge Transfer Activity

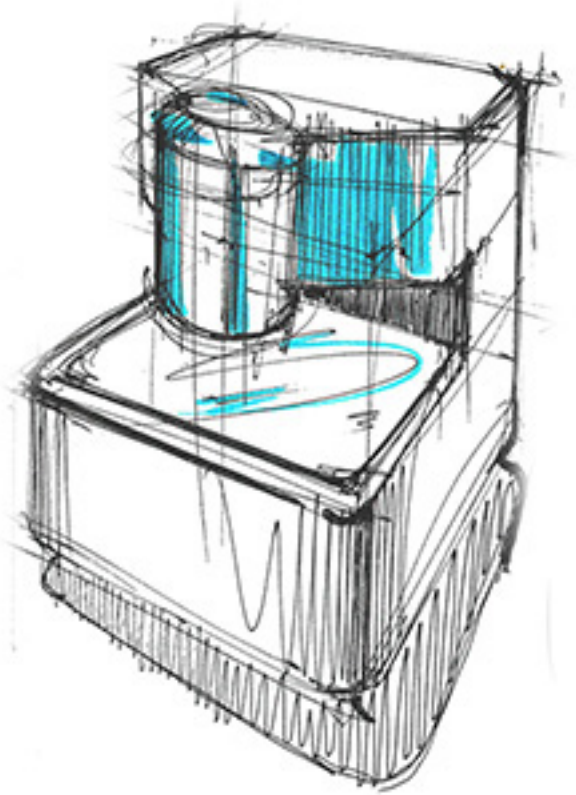
COLUMBUS
KNOWLEDGE TRANSFER FOR BLUE GROWTH

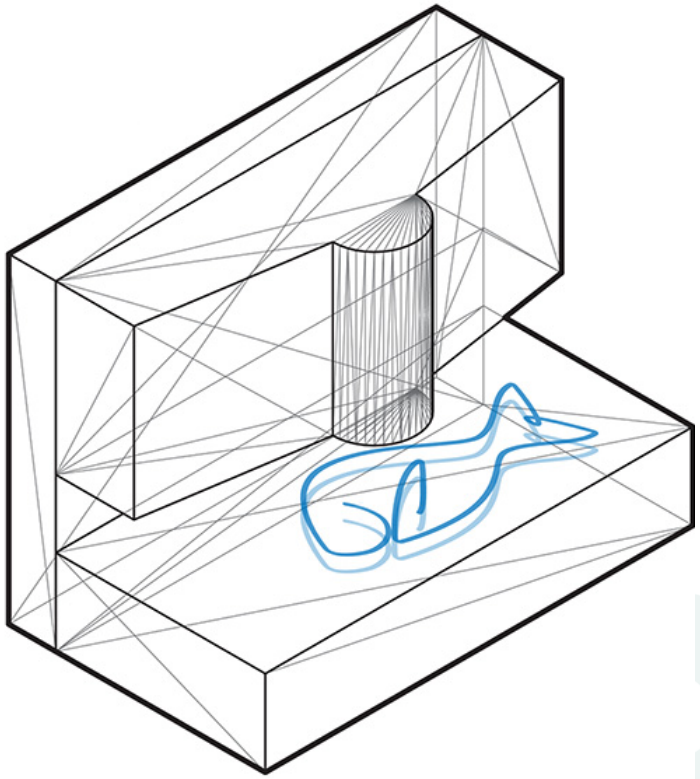
Aquark

Prototype Industrial Design (CONCLUDED: 10th Dec 2016)









This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

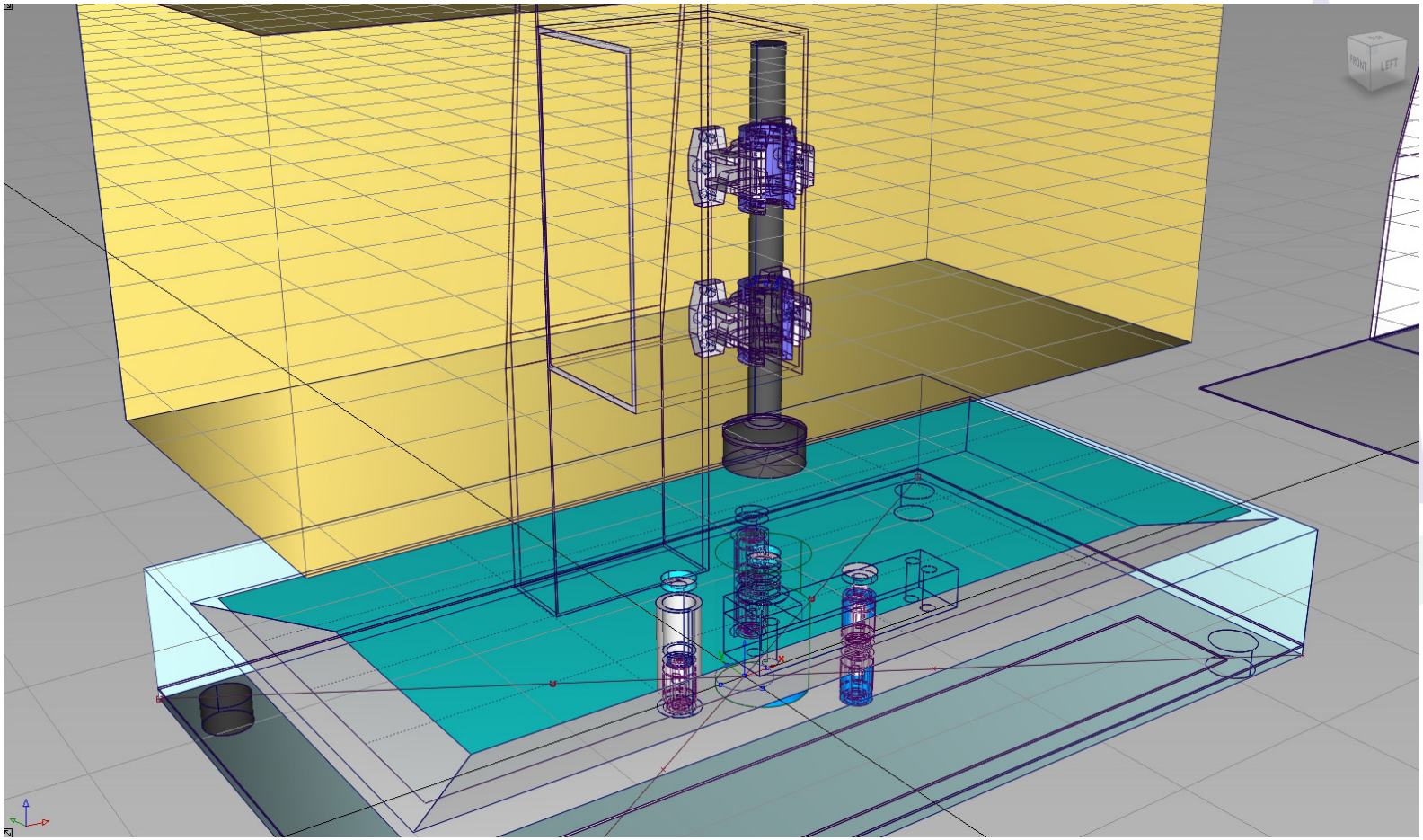
FISH TEXTURE EVALUATION TOOL

Knowledge Transfer Activity

COLUMBUS
KNOWLEDGE TRANSFER FOR BLUE GROWTH

Aquark

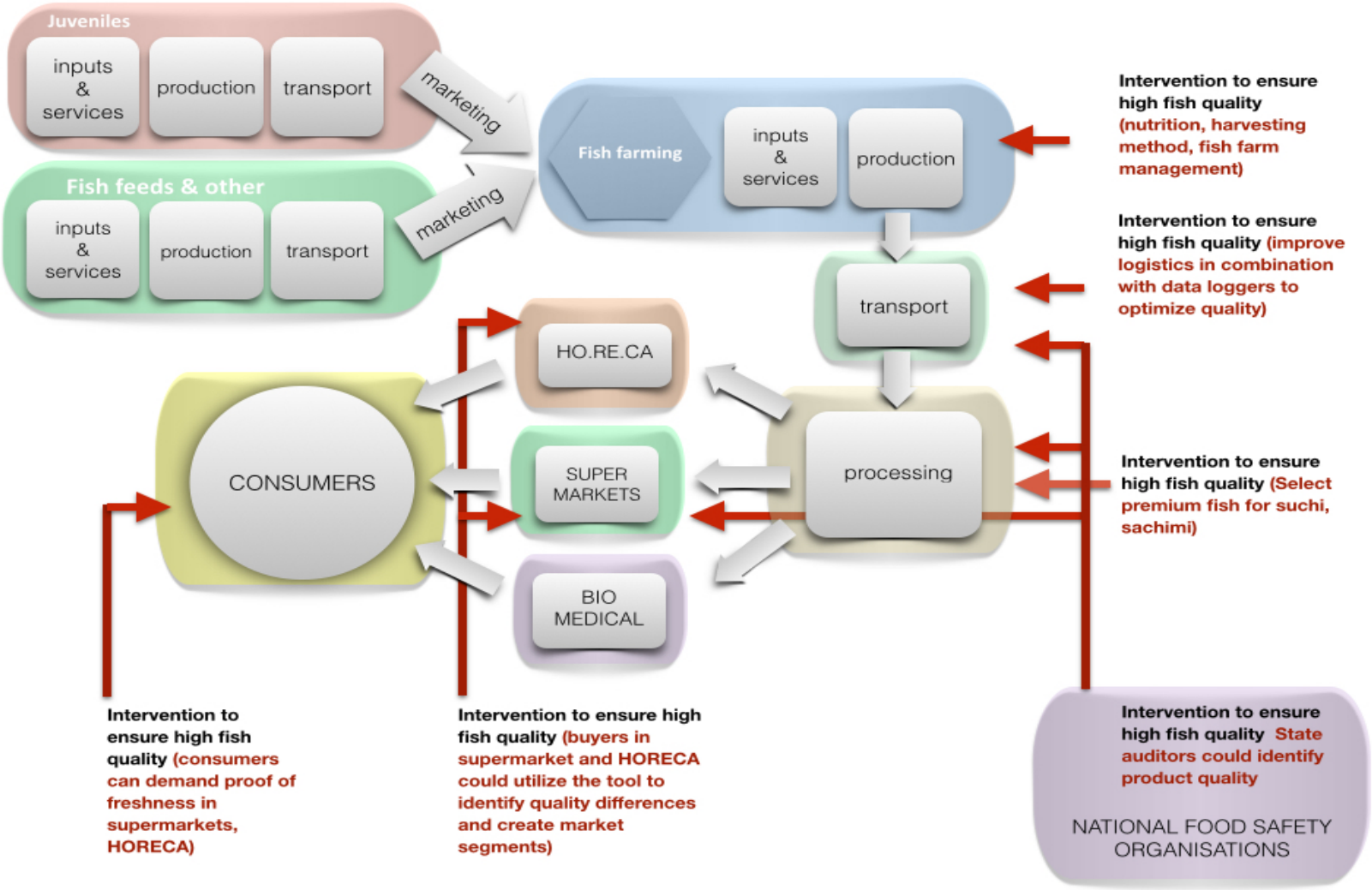
Final Industrial Design



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

FISH TEXTURE EVALUATION TOOL

Target Users in the Aquaculture Value Chain



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

FISH TEXTURE EVALUATION TOOL

Intended Impact

- ✓ Launch FTET Tool for Mediterranean Mariculture (August 2017)
- ✓ Launch FTET Tool for A. Salmon industry (Dec 2018)

Uptake and Application of knowledge

- ✓ AQUARK with support IP holders to field test FTET in Mediterranean Mariculture
- ✓ AQUARK with BIM will support the IP holders to field test and launch the A.salmon tool
- ✓ AQUARK with BIM will assist IP holders to achieve a technology transfer agreement

Increased Impact of KO Project

- Improved buyer and consumer confidence on fish freshness and self life
- Creation of market segments of superior (super fresh) fish that could be awarded a premium price (industry diversification – value addition)
- Award local super fresh produce vs imported fish.
- Selection of the best flesh quality fish to be used as sushi and sashimi

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

COLUMBUS
KNOWLEDGE TRANSFER FOR BLUE GROWTH

Aquark

We strongly believe on the capacity of
DIVERSIFY Project consortium
to have a major impact to the fish farming industry

We are here to assist and support you
in achieving Seamless Knowledge Transfer to
reach Industrial Application and
maximize the impact of your IP for the benefit
of Your Research teams and Organizations

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.

Panos Christofilogiannis

Email: panos@aquark.gr
Skype: aquark1
Tel:+306944418566
www.aquark.gr

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 652690. This output reflects the views only of the author(s), and the European Union cannot be held responsible for any use which may be made of the information contained therein.