ABAWARE

ADVANCED BIOTECHNOLOGY FOR INTENSIVE – FRESHWATER AQUACULTURE WASTEWATER REUSE

Water JPI
WaterWorks2015 Cofunded Call
6 April 2017, Stockholm

by
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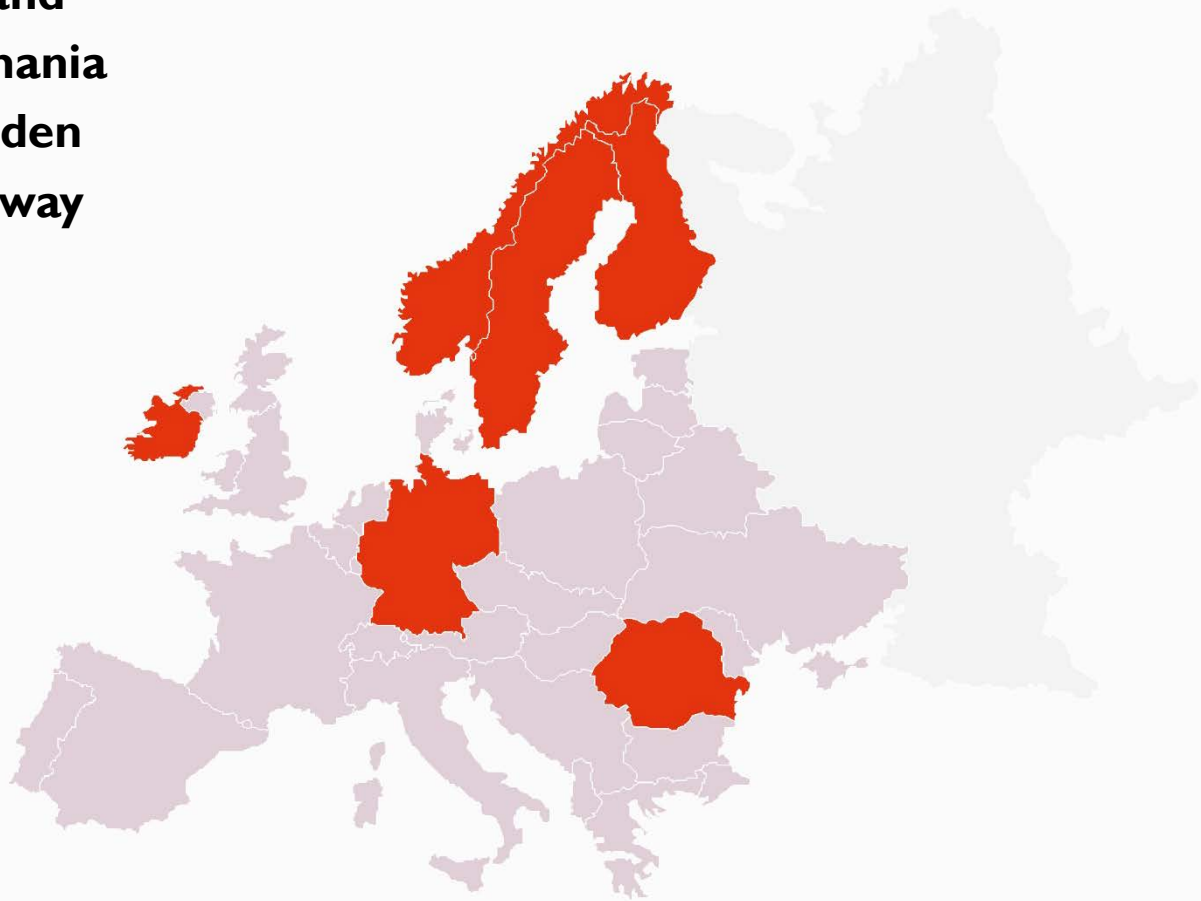
CONSORTIUM DESCRIPTION

- **6 countries:** **Germany**
  Finland
  Ireland
  Romania
  Sweden
  Norway



CONSORTIUM DESCRIPTION

- **Project partners (PIs):**

Thomas Berendonk	Technical University Dresden (DE)
Marko Virta	University of Helsinki [FI]
Fiona Walsh	National University of Ireland, Maynooth (IE)
Nicolae Craciun	ES Aquaterra (RO)
Corina Moga	DFR Systems (RO)
Ioan Ardelean	Institute of Biology, Romanian Academy (RO)
Jana Pickova	Swedish University of Agricultural Sciences (SE)

- **Project Coordinator**

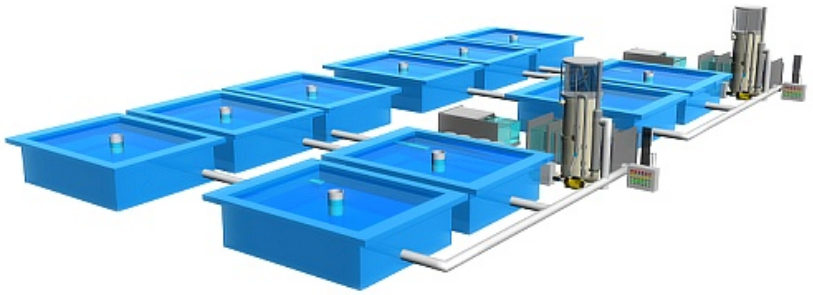
Henning Sørum	Norwegian University of Life Sciences (NO)

MOTIVATION

- The aquaculture industry is the sustainable source of food
- The open cage aquaculture has negative impact on the environment
- EU Directive 2000/60/EC 23rd Oct 2000
- Norwegian regulations - FOR-2006-12-15-1446

MOTIVATION

- **The recirculating aquaculture systems (RAS) are gaining popularity**
- **Current water recirculation technologies are inefficient**
- **RAS require big initial investments and have high operational costs**



https://globalaquaculture.wordpress.com

THE AIM

- **The aim of ABAWARE is the increased efficiency of water use in RAS aquaculture and minimisation of its negative impacts on the environment and human health**

- **The project will address the specific Challenges 1a and Challenges 2c, 2d outlined in the 2016 JPI Call**

OBJECTIVES

- **Development of advanced technology for intensive RAS with minimum costs (investment and operational) and negative environmental impact**

- **Understanding and minimisation of the environmental risks from freshwater aquaculture to human health (environmental exposure from water uses and food)**

Expected Impact of the Project

The ABAWARE:

- **will generate scientific publications**
- **communications to stakeholders and governmental authorities**
- **will issue technical reports**
- **will be used for training students**

Expected Impact of the Project

The ABAWARE:

- **will deliver pilot innovative RAS plant for warm-water aquaculture**
- **will provide a prototype pipeline for bioconversion of suspended solids and excess of generated biomass into feed grade proteins or lipids**

WP1.

Research on microbiota suitable for wastewater treatment in recirculating aquaculture systems

- **WP leader:**

  Professor Jana Pickova

- **WP partners:**

  Swedish University of Agricultural Sciences (SE)

  Institute of Biology, Romanian Academy (RO)

  Norwegian University of Life Sciences (NO)

WP2.

Design and construction of laboratory installation for wastewater treatment with selected microbial consortia

- **WP leader:**

  Dr. Corina Moga

- **WP partners**:

  DFR Systems (RO)

  ES Aquaterra (RO)

WP3.

Laboratory testing and analysis of all components of the RAS system produced by WP2

- **WP leader:**

  Professor Ioan Ardelean

- **WP partners**:

  DFR Systems (RO)

  ES Aquaterra (RO)

WP4.

On site testing and analysis of the solutions produced by WP2 and WP3

- WP leader:

  Professor Marko Virta

- WP partners:

  University of Helsinki (FI)
  Norwegian University of Life Sciences (NO)
  Technical University Dresden (DE)
  National University of Ireland, Maynooth (IE)
  ES Aquaterra (RO)
  DFR Systems (RO)
  Swedish University of Agricultural Sciences (SE)

WP5.

Dissemination of project results

- **WP leader:**

  Professor Fiona Walsh

- **WP partners**:

  National University of Ireland, Maynooth (IE)

  all other partners

Promotion of multi-disciplinary work

- **The ABAWARE project team is a newly established international research team combining 3 earlier established research consortiums with long and fruitful history of cooperation**

- **The research part of the team consists of engineers, biologists and veterinarians representing various basic and applied disciplines**

Promotion of multi-disciplinary work

- **The team also include technical personnel of the:**

  Swedish freshwater fish breeding company Vattenbrukscentrum Norr

  RAS facility of Norwegian University of Life Sciences

  RAS facility of the Institute for Inland Fisheries, Starnberg, Germany

Stimulation of mobility of researchers within the Consortium

- **The project rely on the methods to a great extent developed and published by the project participants and WP leaders**
- **The expertise will be shared with young researchers and students**
- **The project plan contain two obligatory research visits:**

Norwegian University of Life Sciences (NO)

and

Swedish University of Agricultural Sciences (SE)

Swedish University of Agricultural Sciences (SE)

and

nstitute of Biology, Romanian Academy (RO)

Enhancement collaborative research and innovation during the project life and beyond

- **The ABAWARE will be used as a platform for subsequent applications**

- **Please feel free to contact any of the ABAWARE members regarding any potential collaborations**

Thank you