

# BLUEGRASS

*Boosting the Long term development of the GReen Agri-food through Aquaponics Sustainable Solutions*

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Università  
Ca' Foscari  
Venezia



**Calls for standard project proposals n. 1/2016 1b,  
2/2016 4e, 3/2016 6c, 6d, 6f e 4/2016**

**Priority axis 6 - Specific Objective 6f**

**Development and the testing of innovative  
environmental friendly technologies for the  
improvement of waste and water management**

**Total FESR/ESRR contribution 645130 EUR**

**Total budget 758976 EUR**



# PROJECT BACKGROUND

The Agrifood sector is interested by an increasing need for innovation and for new productive strategies (JRC-Global Food Security 2030)

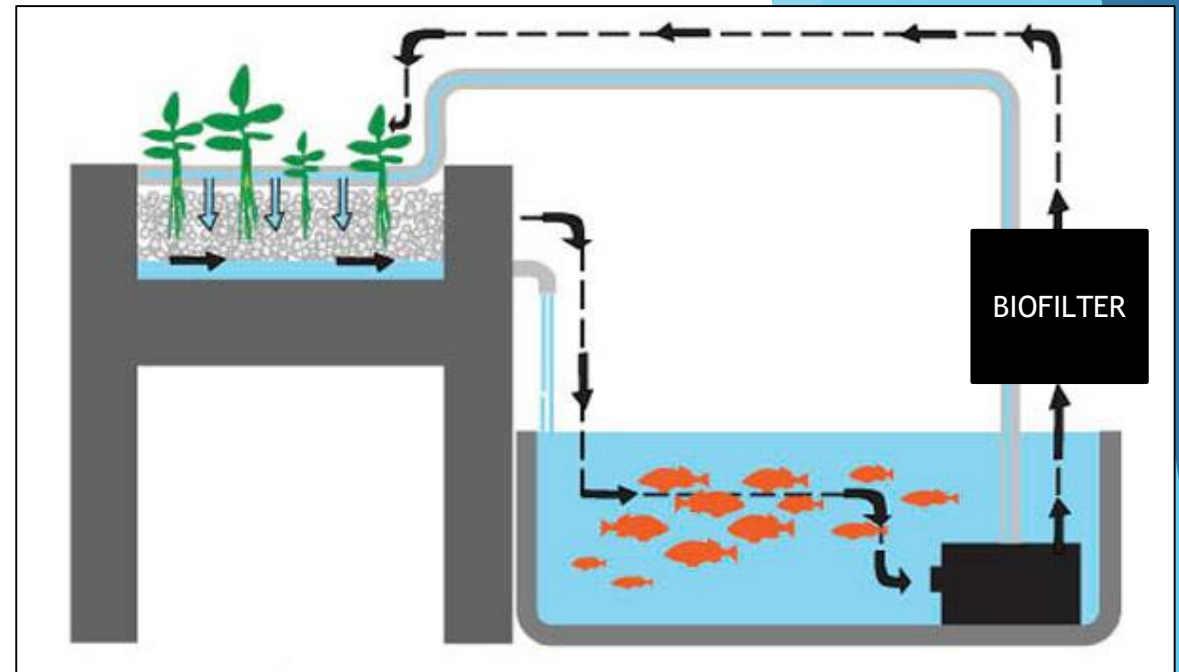
Sustainable growth should:

1. Guarantee new products, responding to new consumers needs
2. Promote the development of green technologies
3. Face the threats posed by climate changes



**AQUAPONICS**

**Aquaponics can be defined as the combination of recirculating aquaculture practices and hydroponics.**



**In this technique plants are cultivated without the use of soil and the water outcoming from the fish tanks provides the nutrients for the vegetable growth.**

# Aquaponics allows to integrate the production of vegetables and fish:

- It is strongly rooted on circular economy and industrial symbiosis principles
- Water consumption in aquaponics can be reduced up to 90% with respect to traditional agriculture practices



- Waste production is minimized
- Limited energy demand - no use of tractors
- Pesticides free



# AIM OF THE PROJECT

Promoting the development of a green agri-food by introducing aquaponics in the area covered by the Programme

**DURATION: 30 months**

## CONSORTIUM



Università  
Ca' Foscari  
Venezia



Univerza v Ljubljani

**Shoreline**

Unione Territoriale Intercomunale del  
**Noncello**



## ASSOCIATED PARTNER





**SHORELINE (Trieste)**

- Aquaculture
- Environmental monitoring
- Education activities

**UNIVERSITY OF LJUBLJANA**

- Rural economy
- Market analysis
- COST member (FA1305)

**CA' FOSCARI UNIVERSITY OF VENICE**

- Aquaculture
- Modelling
- LCA

**KZ AGRARIA (Koper)**

- Network of agricultural producers
- Knowledge of agriculture practices and market

**UTI DEL NONCELLO (Porcia Municipality)**

- Strong connections with local stakeholders and schools

**ASSOCIATED PARTNERS**

- ★ AGROITTICA FRIULANA
- ★ WWF OASI

# SYNERGIES WITH PREVIOUS PROJECTS

## INTERREG PROJECTS

- INNOVAQUA (SHORELINE)
- OGV (Goriški vrtovi-Orti Goriziani) (UNILUB)



## EU PROJECTS

- FP7 MEDINA 2011-2014 (UNIVE)
- ECASA (UNIVE)
- EUROSHELL (UNIVE)
- FORCE (UNIVE)
- CLIMEFISH (UNIVE)



## COST ACTION

- FA1305 (Aquaponics) (UNILUB)



## ESF PROJECT

- “TINCA - An innovative and sustainable technology for agrifood: aquaponics” (UNIVE)





# SPECIFIC OBJECTIVES

1. Characterizing the potential market for aquaponics

2. Implementing and testing two aquaponic pilot systems

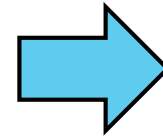
3. Creating a network of people interested in aquaponics

# CONTRIBUTION TO PROGRAMME OUTPUT INDICATORS (IMPACT)

1. Characterizing the potential market for aquaponics

2. Implementing and testing two aquaponic pilot systems

3. Creating a network of people interested in aquaponics



Number of green technologies implemented and tested

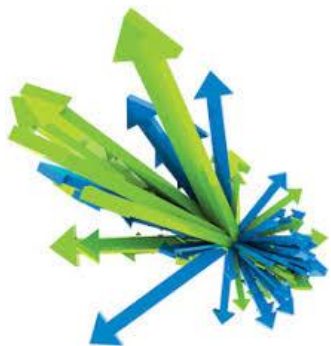
Number of farms testing new sustainable solutions

# BLUEGRASS MAIN OUTPUTS

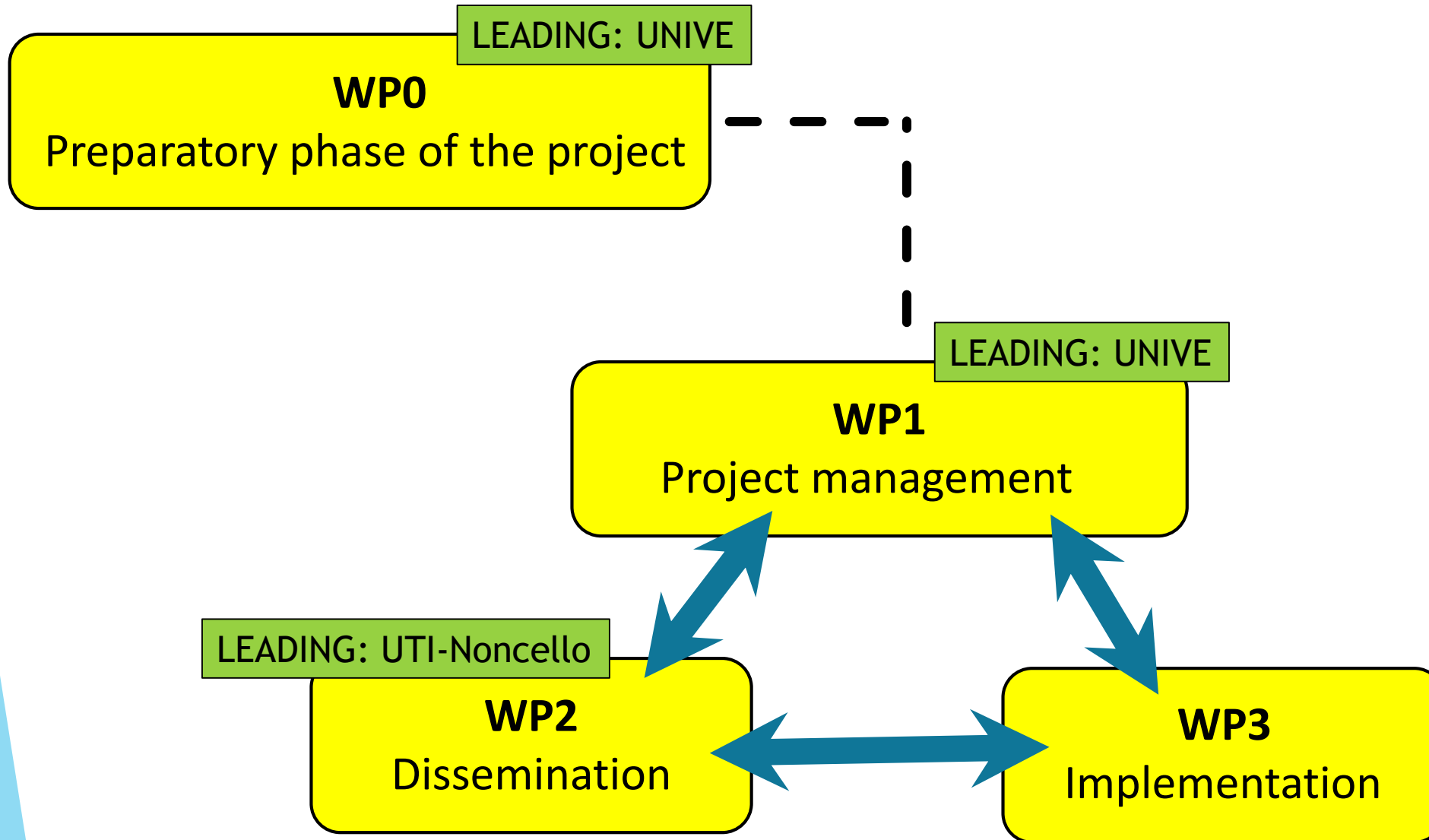
BLUEGRASS will set up and run in the programme area two **aquaponics pilot systems**

BLUEGRASS will set up a **network** of farmers and fish farmers interested in expanding their business by using this technology

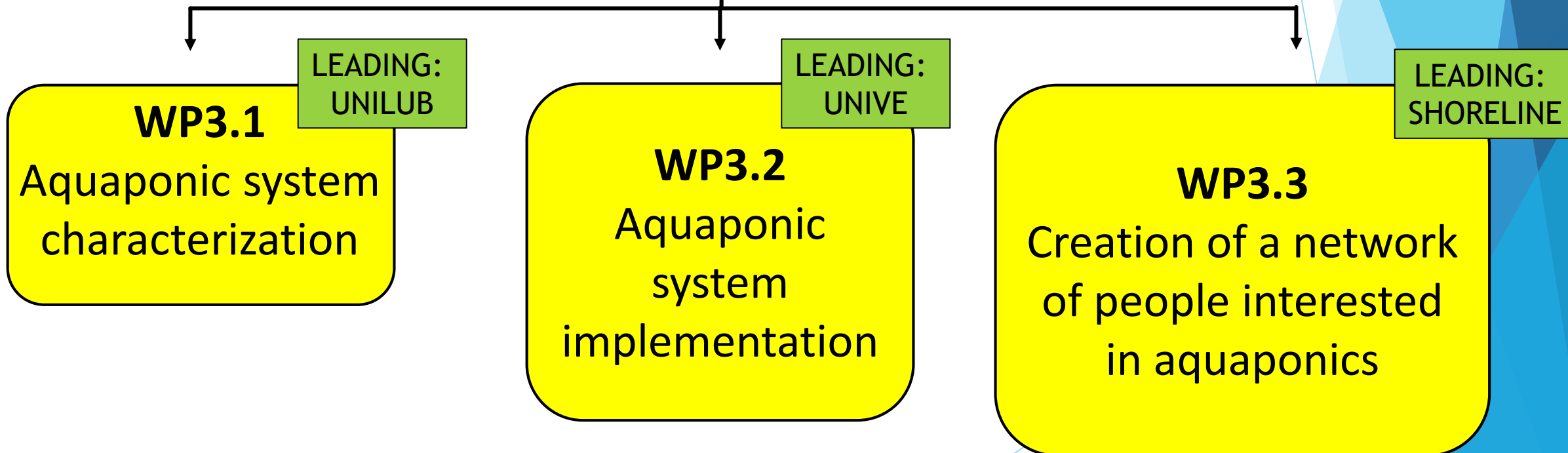
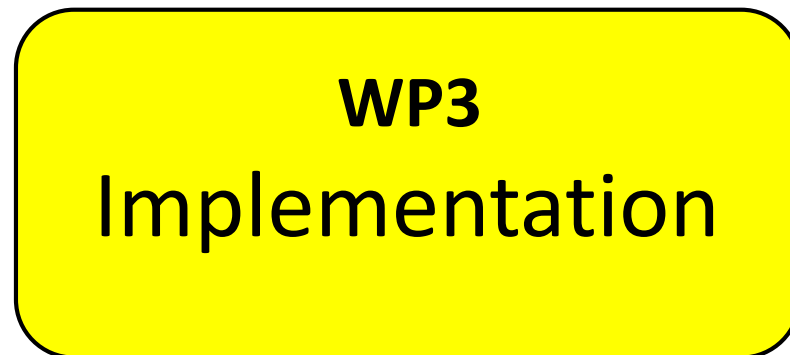
**Consumer awareness** will be increased by means of educational and communication activities, in order to stimulate new market opportunities



# PROJECT STRUCTURE

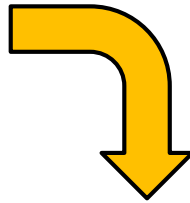


# WP3 IMPLEMENTATION



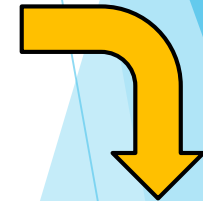
# WP3.1 Aquaponic system characterization

1. Market analysis



2.

Stakeholders engagement  
(aquaponic working groups)



3. System design



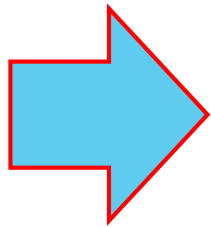
# MARKET ANALYSIS



On-line dynamic questionnaires

Consumers

Producers



Market analysis results will be used to set up the two pilot aquaponic systems

Links to the questionnaires are available at the FB page of the BLUEGRASS project:

[www.facebook.com/pg/Bluegrass.ITASLO](http://www.facebook.com/pg/Bluegrass.ITASLO)



# WP3.2 Aquaponic system implementation

According to the results of the market analysis, 2 aquaponic pilot systems (APS) will be designed and set up



UNIVE 1 APS in Porcia municipality  
(Friuli, Italy)



UNILUB 1 APS in Slovenia  
(Koper)



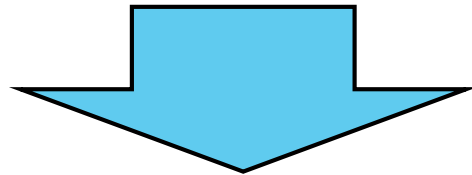
- Demonstrative activities
- Didactic activities
- Professional training



# WP3.2 On both the systems:

UNIVE

- Characterisation of energy and materials flows
- Environmental and economic sustainability assessment



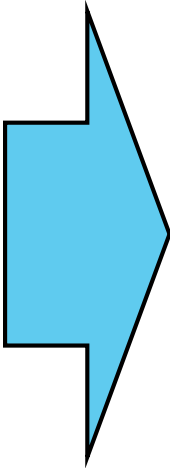
Life Cycle Assessment, LCA + Life Cycle Costing, LCC

SHORELINE

- Water quality assessment

- Physical and chemical analyses
- Ecotoxicological analyses

# WP3.3 Target groups engagement activities on APS



**KZ-AGRARIA**



**SHORELINE**

**UTI-Noncello**

# Shoot of 2 demonstrative videos on APS

VIDEO	MAIN TOPIC	ADDRESSED TO
1	Aquaponic and sustainability	Potential consumers
2	Productive technical features	Potential producers and investors



# TARGET GROUPS



Schools



km 0 markets

## 1. CONSUMERS



Purchasing groups

# TARGET GROUPS



**2. SME**

**Aquaculture**



**Agriculture**



**3. UNIVERSITY STUDENTS**



**4. SCIENTISTS/RESEARCHERS**



# **Thank you for your attention**

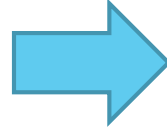
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# HORIZONTAL PRINCIPLES



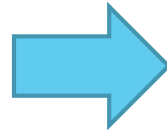
**SUSTAINABLE DEVELOPMENT**



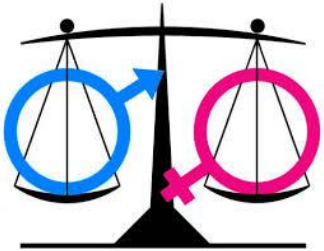
**BLUEGRASS** will encourage the **GREEN AGRI-FOOD** development through the implementation of aquaponics



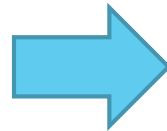
**EQUALITY OF OPPORTUNITY**



**BLUEGRASS** will promote the creation of new working opportunities for the agricultural sector. Aquaponics have an high potential in terms of **ACCESSIBILITY (DESK BASED ACTIVITIES)**



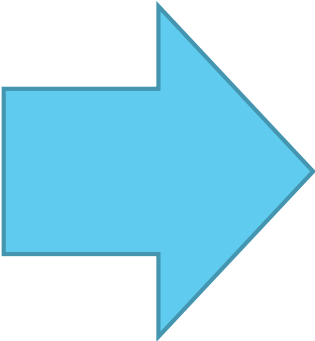
**GENDER EQUALITY**



**AQUAPONICS** have an high potential in terms of new working opportunities for both the genders

# ENVIRONMENTAL PRINCIPLES

Conservation, protection, promotion and development of natural and cultural heritage through the best technologies available



BLUEGRASS will contribute to environmental protection and conservation through the implementation of aquaponics







# CONTRIBUTION TO STRATEGIES

BLUEGRASS is in line with **the EUROPE 2020 Strategy for Smart, Sustainable and Inclusive Growth**

BLUEGRASS ensures continuity with strategies previously adopted in this area, including:

- **LEADER** (Liaison Entre Actions de Developpement Rural) axis of the Rural Development Programme 2014-2020, adopted in Slovenia
- **Strategia di Sviluppo Rurale 2014-2020** adopted in Friuli Venezia Giulia