

## Water2REturn project

SaltGae – Final event Ljubljana, Slovenia

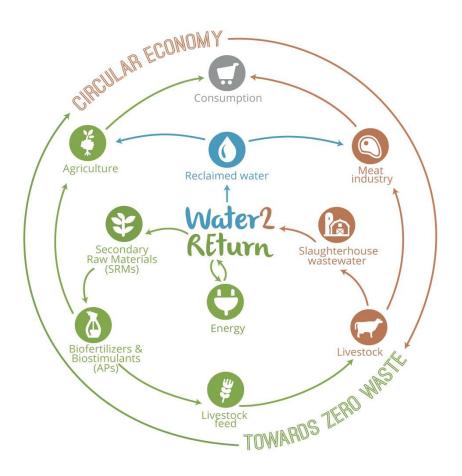
September 25th, 2019

### Water2REturn in a nutshell

Integrated solution for slaughterhouse wastewater treatment;

Circular Economy approach turns wastewater treatment facilities into "bio-refineries";

The recovery of nutrients with high market value in the agricultural sector.





## What will be done? Which the objectives are? When it will be achieved?

- 1 integrated treatment + nutrients & energy recovery system:
  3 separated process units (water line, sludge line, algae line) + energy recovery module.
  - **Demonstrator treatment capacity:** 50 m³ wastewater / day.
  - Demo site: "Matadero del Sur" slaughterhouse near Seville, Spain (wastewater daily flow: 150 m³).
- **Product valorisation for agronomic use** formulation and optimisation of the 3 APs, field tests for agronomic efficiency, APs manufacturing.
- Environmental, economic, social and risk assessments.
- End users need and market uptake at EU level stakeholders engagement and consultation, market potential, recommendations to EU and national regulators, business plan implementation.
- Communication, dissemination and exploitation.

#### Water2REturn objectives





Demonstrator implementation at real scale

Fertilisers and biostimulants manufacturing





Reduction of the environmental adverse effects of nutrient emissions and wastewater discharge

Reduction of landfilled waste





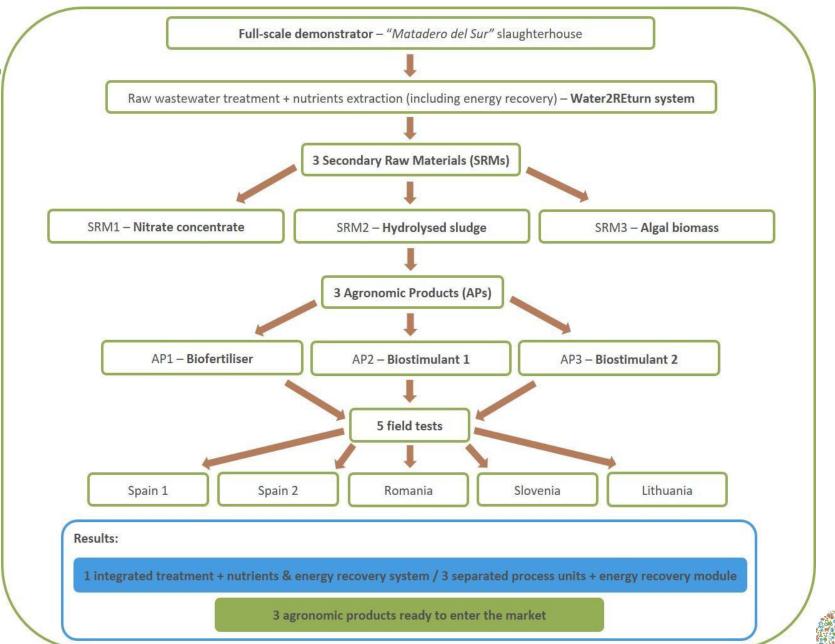
Energy self-sufficiency of slaughterhouses wastewater treatment plants

Promotion of a wide and fast market uptake of Water2REturn processes and products

#### Water2REturn timing

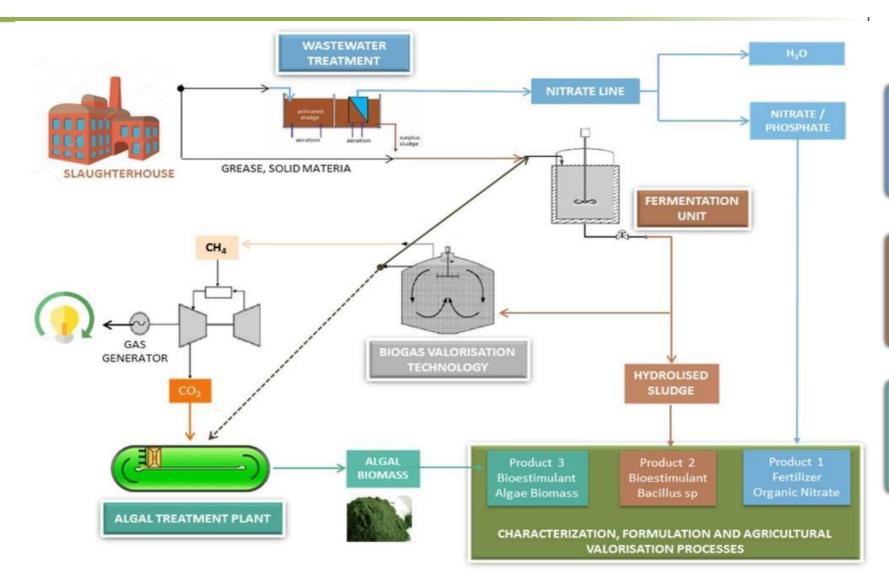
- □ Duration: **01/07/2017** − **31/12/2020**.
- Demonstrator installation and start-up: from autumn 2019.







## Water2REturn system



#### **WATER LINE**

SRM1: Nitrates concentrate
AP1: Organic fertiliser based on
nitrates

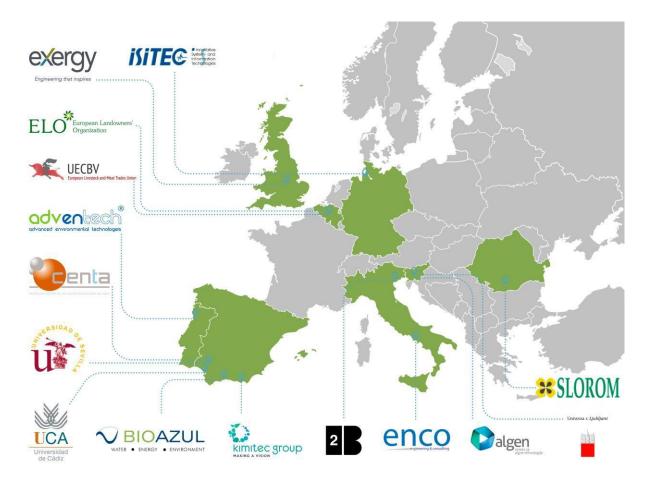
# SLUDGE LINE SRM2: Hydrolysed sludge AP2: Biostimulant based on Bacillus sp. biomass

ALGAE LINE
SRM3: Algal biomass
AP3: Biostimulant based on algal
biomass



## Who makes Water2REturn possible? Whom is Water2REturn for?

#### Water2REturn consortium



Initial target customers:





Meat processing industry.



Bioagronomic products' distributors.



Agricultural sector → conventional and organic farmers.



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# Thanks for your attention! Dr. Rok Mihelič

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www.water2return.eu

