Life mcubo

Modelling, Measurement and Improvement
of the water management environmental impact in the food industry

main **objective…**

… is to minimize the environmental impact related to water management in the subsectors with highest water consumption through effective demonstration

expected **impact:**

Reduction of water consumption
- **-30%** at meat industry
- **-25%** at canned vegetables industry
- **-26%** at juice industry

Reduction of thermal energy consumption
- **-18%** at meat industry
- **-15%** at canned vegetables industry
- **-20%** at juice industry

Reduction of electricity consumption
- **-5%** at meat industry
- **-5%** at canned vegetables industry
- **-7%** at juice industry

European scale project replication in 30 companies in the next 3 years, after the end of the project
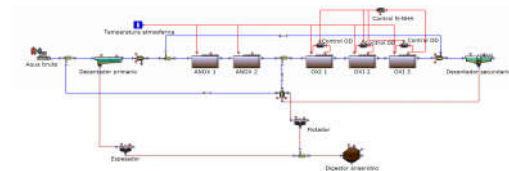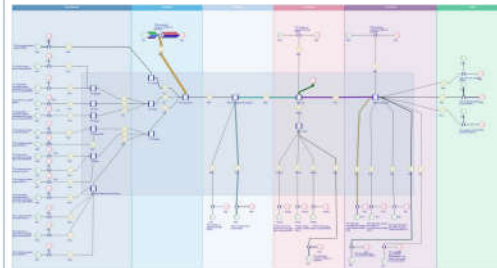
Proposed **implementation methodology:**

Production efficiency monitoring system

- Wirelessly monitors and calculates the production efficiency of the equipment
- It includes simultaneous water and energy consumption
- Does not interfere in the production processes

Continuous improvement

- Efficiency measurement system
  - Data for model calibration and validation
- Mathematical models
  - Proposal of new operating strategies
- Pilot plant tests
  - Validation of new operating strategies
- Real plant implementation
  - Replication and transference guide
- Replication and transference in 30 companies at the same or different sub-sector

Mathematical modelling and simulation

- Mathematical models able to reproduce the production process and wastewater treatment processes will be employed
- This enables having simulations before implementation in real plant
- Validate the proposed solutions
- Transfer of knowledge about optimization processes

Pilot plant testing

- Pilot plants that reproduce the production line of the demonstrative case studies are available
- Enables optimizing the processes on pilot scale prior to real plant
- Validate the proposed solution.
- Reduces the actions taken in the company

Partners

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