Circular Economy and Sustainable solutions
for Agrifood in the Mediterranean

Challenge C6

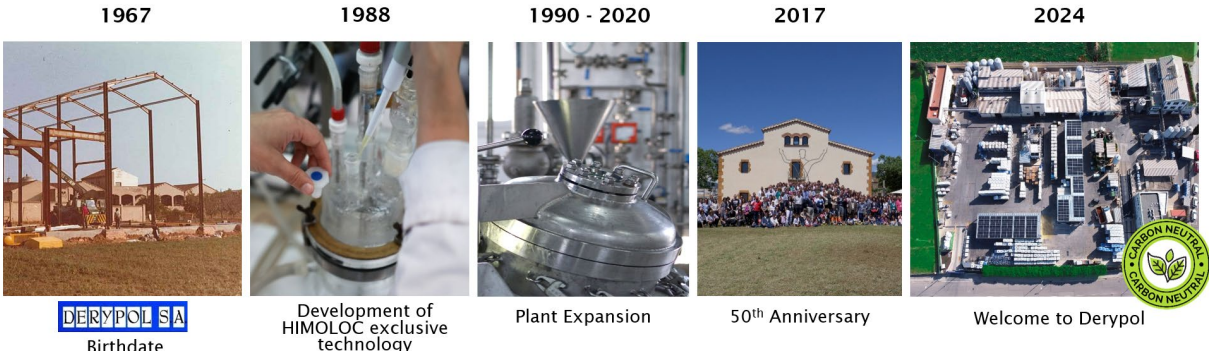
CESAM SME linked to this challenge: DERYPOL

derypol

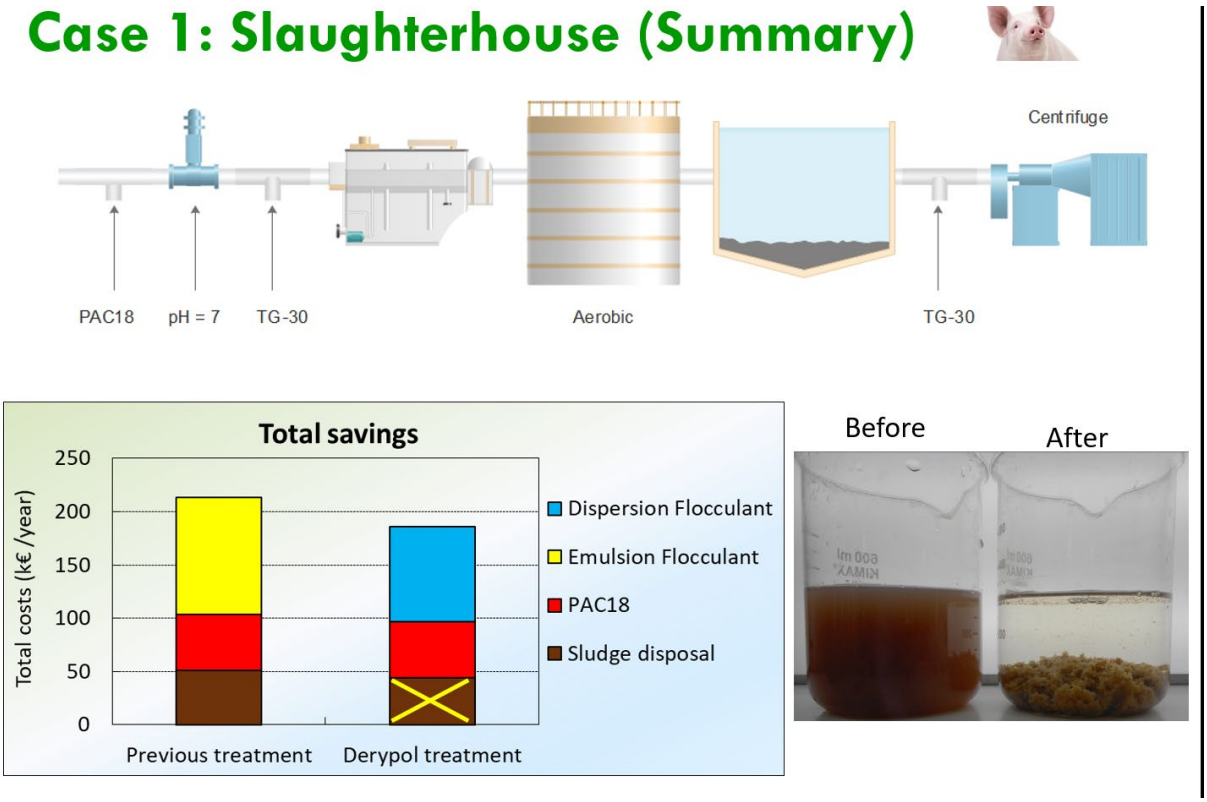
BACKGROUND:

DERYPOL is a developer and producer of flocculants (polymers) located in les Franqueses del Valles (Spain). Founded by Dr. Solé in 1967, the company is exporting to more than 70 countries.

- We have developed a unique type of flocculants known as HIMOLOC technology or “water-brine dispersions” which are free of solvents, surfactants and mineral oils.
- These flocculants are used in Wastewater Treatment, for the solid-liquid separation in physic-chemical and sludge dewatering treatment.
- We believe that a solvent-free flocculants applied in a WasteWater Treatment Plant from Agrifood industry contributes to greater reusability of the sludge coming from wastewater treatment in application in agriculture and fertilizer.



Example of WasteWater Treatment Plan:



CHALLENGE DESCRIPTION	
Challenge line	**C7**
Title of the challenge	Paradigm Shift in Agrifood WasteWater Treatment. Physic-chemical and Sludge Dewatering using Water-Brine Dispersion Flocculant vs Oil/Solvent Emulsion Flocculant.
Objective(s) of the challenge	The objective of the challenge is to compare the above technologies in terms of: • Performance: Sludge Dryness (%) • Cost-Performance: Dosage x Cost • Residual Monomers • Amount of Solvents The above parameters will enable to evaluate the possibility to re-use the sludge in an agricultural field as a fertilizer, providing value to the wastewater treatment sludge instead of having a disposal cost.
Expected results of the challenge	The expected results for the Water-Brine Dispersions vs Oil/Solvent Emulsions Flocculant are: • Performance: Same or superior. • Cost-Performance: Same or superior. • Residual Monomer: Lower • Amounts of Solvents: Significantly Lower or non-existing
Relevance of the challenge in the frame of CESAM project	This challenge is critical for the CESAM project. The main objective of the DERYPOL participation is to demonstrate in industrial/field cases that an alternative flocculant technology is available to Reuse WasteWater Treatment Sludge in Agriculture: • Without Solvents • Recovering Nutrients • Reducing or Removing Disposal Costs
Type(s) of SME(s) we are looking for	• Agrifood Industry (Dairy, Processed Food, Vegetables, Fruit Juice…). • Must have own WasteWater Treatment Plant with Physical-Chemical Treatment and Sludge Dewatering.
Expected work for the applicant SME	Find a WasteWater Treatment Plant from Agrifood Industry (Dairy, Processed Food, Vegetables, Fruit Juice…) to treat the sludge with two different flocculant technologies with the aim to use it as fertilizer in agricultural field. Accept that we run two industrial trials in their WasteWater Treatment Plant and take part of the sludge to be spread as a fertilizer in the agricultural field • Initial Plant Audit: 1 day (Derypol will go to the WasteWater Treatment Plant and understand the process flow and requirements)

	• Initial Laboratory Testing: 3 days (Derypol will take sample and do laboratory tests to select the most appropriate treatment) • Field Trial: 1 week (Derypol will go to the WasteWater Treatment plant, bring the flocculant and perform the trial)
Maximum amount granted for this challenge	15.000€
Funding rate	100%
Duration of the work and proposed starting period	3 approx. MONTHS Starting from May 2025
Effort for the applicant SME	Personal Cost: WasteWater Operator supporting Derypol during the Audit and Trials Operative Cost: During the trials the WasteWater Treatment Plant will not be performing optimally as in a normal day.
Intellectual Property Rights disposition	N/A
Other information (if applicable)	