

NEWFEED - Turn food industry by-products into secondary feedstuffs via circular-economy schemes



AZTI, Bizkaiko Zientzia eta Teknologia Parkea, Astondo Bidea, Derio (Bizkaia) Spain



David San Martin (AZTI) – Project coordinator



+34 667 174 315



dsanmartin@azti.es

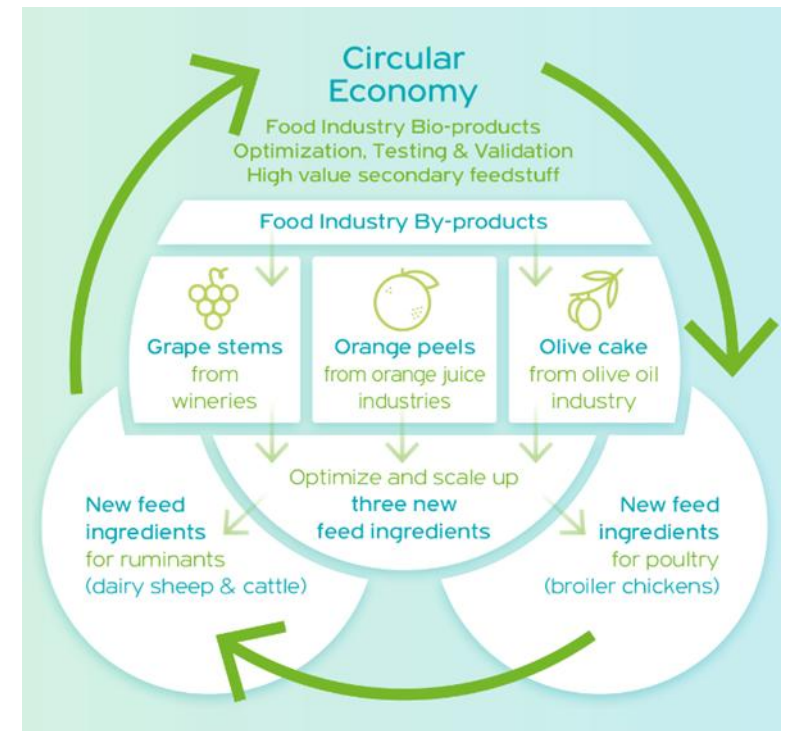
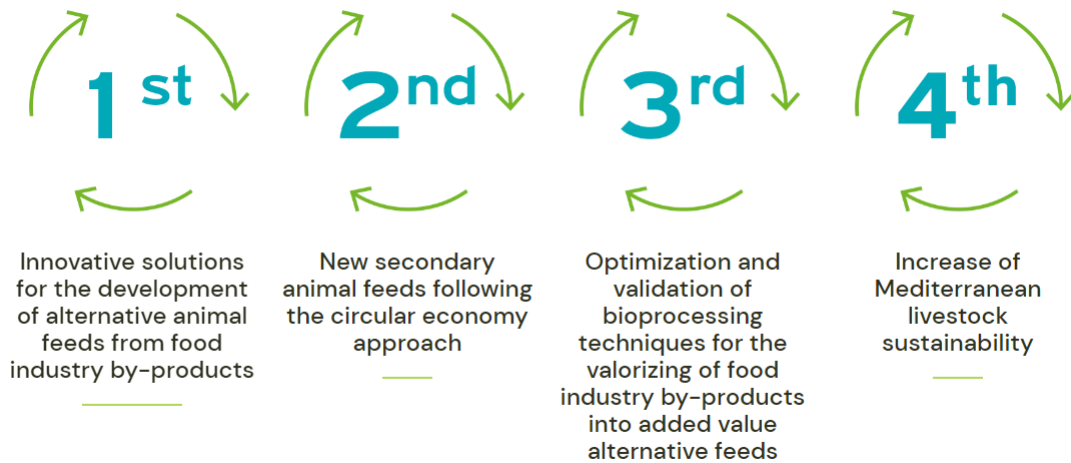


www.azti.es

OVERALL OBJECTIVES

“Development and adoption of **alternative animal feeds**, setting up a circular economy approach in the livestock production by turning food by-products into high value secondary feedstuff for animal feed”.

“Increasing the **Mediterranean livestock sustainability** by valorising local food industry by-products to reduced environmental impact and costs”.



VALUE CHAINS

Three value chains will be validated at the Mediterranean area to create **new business opportunities** based on a multi-actor approach in their conception, configuration, and its sustainability assessment:



from

Grape Stem

Produce new feed ingredient
for ruminants



from

Orange Peel

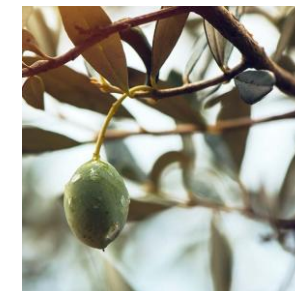
Produce an improved feed ingredient
for ruminants



from

Olive Cake

Produce an improved feed ingredient
for poultry





CONSORTIUM



ΠΑΝΕΠΙΣΤΗΜΙΟ
ΔΥΤΙΚΗΣ ΜΑΚΕΔΟΝΙΑΣ



ORTA DOĞU TEKNİK ÜNİVERSİTESİ
MIDDLE EAST TECHNICAL UNIVERSITY



SPECIFIC OBJECTIVES

1

Optimize and scale-up

Optimize and scale-up three new feed ingredients from winery, orange juice, and olive oil industry by-products. The processing will include solid fermentation and enzymatic hydrolysis to improve their nutritional value and digestibility and enhanced drying process to stabilize them and foster their feed safety, security, and shelf-life.

2

Test and validate

Test and validate the entire value chain for three case studies with a multi-actor approach strategy (by-product generation, collection, processing-stabilizing, feed formulation, animal husbandry, consumer acceptability, sustainability and regulatory aspects), which will help the adoption of new feed sources by livestock systems.

3

Validate intermediate ingredients

Validate three intermediate ingredients and the final diets with animal feeding trials (TRL6-7).

4

Assess sustainability

Assess the sustainability of the new value chains from the environmental, economic and social point of view.

5

Market replicability

Define the market replicability of each value chain in the Mediterranean area.

6

Communicate & disseminate

Communicate and disseminate the project results and developments to the relevant stakeholders.

INNOVATION POTENTIAL

Development & adoption

Development and adoption of at least three new alternative feed sources from winery, orange juice and olive oil industry by-products.

Adoption

Adoption of three circular economy approaches in livestock systems by valorizing food by-products (winery, orange juice & olive oil) as alternative feed for livestock (dairy cattle and sheep & broiler chicken) to produce new products (dairy & meat) for human consumption.

Valorization

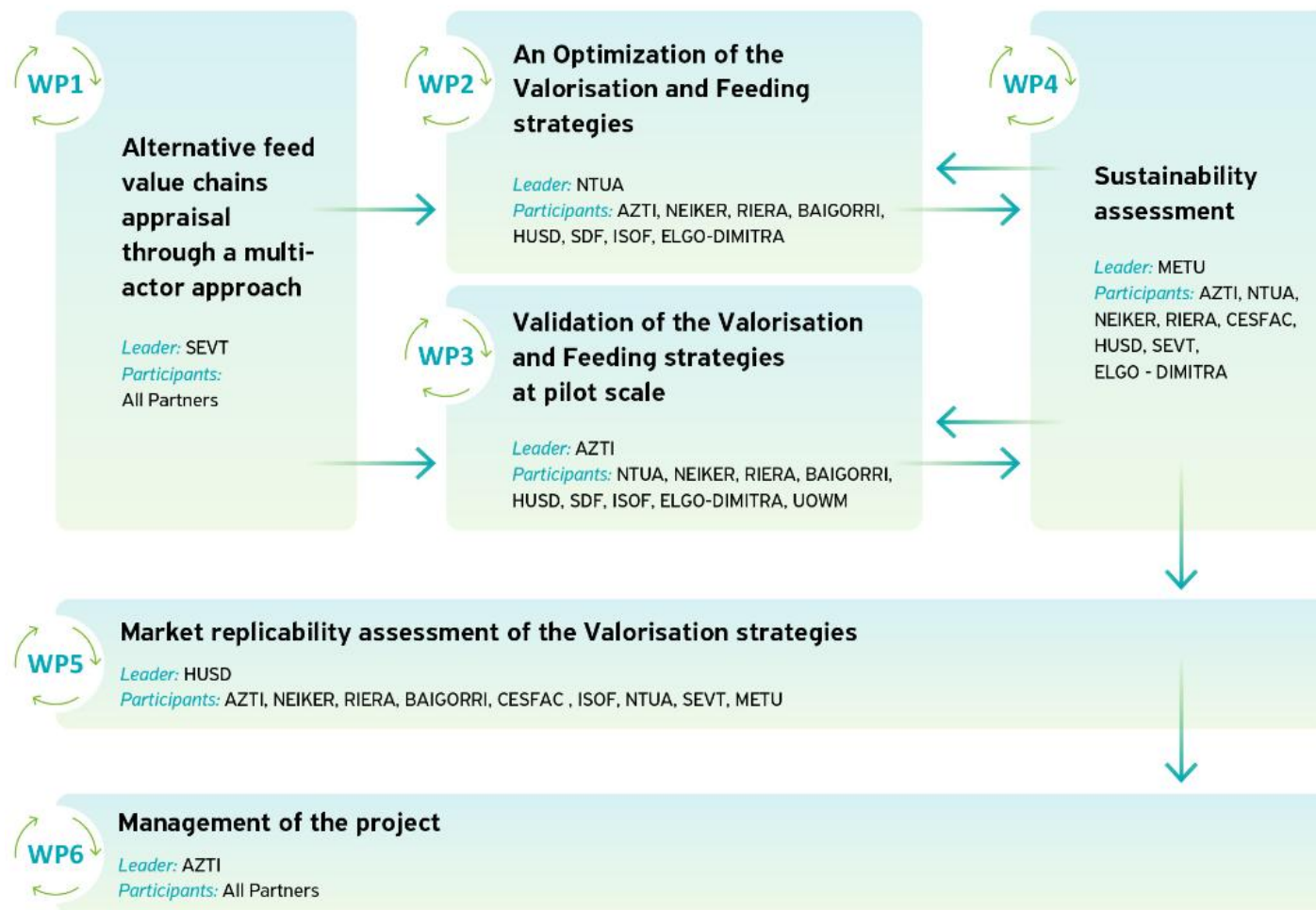
Valorization of three local crops by-products (grape stem, orange peel and olive cake) for animal feed by adapting three valorization strategies to the local industry and livestock, but replicable to Mediterranean area.

Cost Reduction

Reduction of the cost of livestock production by three sustainable and economic alternative feeds and improvement of the quality of final products in compliance with the husbandry nutritional requirements and food and feed safety.



FULL VALUE CHAIN & WP STRUCTURE



CHRONOGRAM

Work plan	Resp. Partner	2021		2022				2023				2024				2025	
		III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II
		M1	M4	M7	M10	M13	M16	M19	M22	M25	M28	M31	M34	M37	M40	M43	M46
		M3	M6	M9	M12	M15	M18	M21	M24	M27	M30	M33	M36	M39	M42	M45	M48
WP1	Alternative feed value chains appraisal through a multi-actor approach	SEVT	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
T1.1	Identification of hurdles and bottlenecks	AZTI	x	x	x												
T1.2	Advisory board	UAGA	x	x	x	x	x	x									
T1.3	Dissemination & consumer awareness	SEVT	x	x		x	x	x	x							x	x
T1.4	Demonstration Workshops	SEVT													x		
WP2	Optimization of the Valorisation and Feeding strategies	NTUA	X	X	X	X	X										
T2.1	Case study 1: grape stem-based ingredients for dairy sheep and cattle	AZTI	x	x	x	x	x										
T2.2	Case study 2: orange peel-based ingredients for dairy sheep	NTUA	x	x	x	x	x										
T2.3	Case study 3: olive cake-based ingredients for poultry: broiler chicken	HUSD	x	x	x	x	x										
WP3	Validation of the Valorisation and Feeding strategies at pilot scale	AZTI				X	X	X	X	X	X	X	X				
T3.1	Case study 1: grape stem-based ingredients for dairy sheep and cattle	NEIKER				x	x	x	x	x	x	x	x				
T3.2	Case study 2: orange peel-based ingredients for dairy sheep	ELGO-Dimitra				x	x	x	x	x	x	x	x				
T3.3	Case study 3: olive cake-based ingredients for poultry: broiler chicken	SDF				x	x	x	x	x	x	x	x				
WP4	Sustainability assessment	METU				X	X	X	X	X	X	X	X	X	X		
T4.1	Life Cycle Assessment	METU				x	x	x	x	x	x						
T4.2	Life Cycle Costing	METU				x	x	x	x	x	x	x	x				
T4.3	Social assessment	SEVT				x	x	x	x	x	x	x	x	x			
WP5	Market replicability assessment of the Valorisation strategies	HUSD									X	X	X	X	X	X	X
T5.1	Legal and Regulatory issues	HUSD									x	x	x				
T5.2	Dissemination and Exploitation plan of the projects' results	AZTI									x	x	x	x	x	x	x
T5.3	Continuation strategy after the end of the project	AZTI													x	x	x
WP6	Management of the project	AZTI	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
T6.1	Management structures and procedures set up	AZTI	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
T6.2	Scientific coordination	AZTI	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
T6.3	Administrative and financial management	AZTI	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

VIDEOS



from

Grape Stem

Produce new feed ingredient
for ruminants



from

Orange Peel

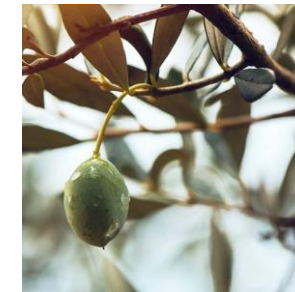
Produce an improved feed ingredient
for ruminants



from

Olive Cake

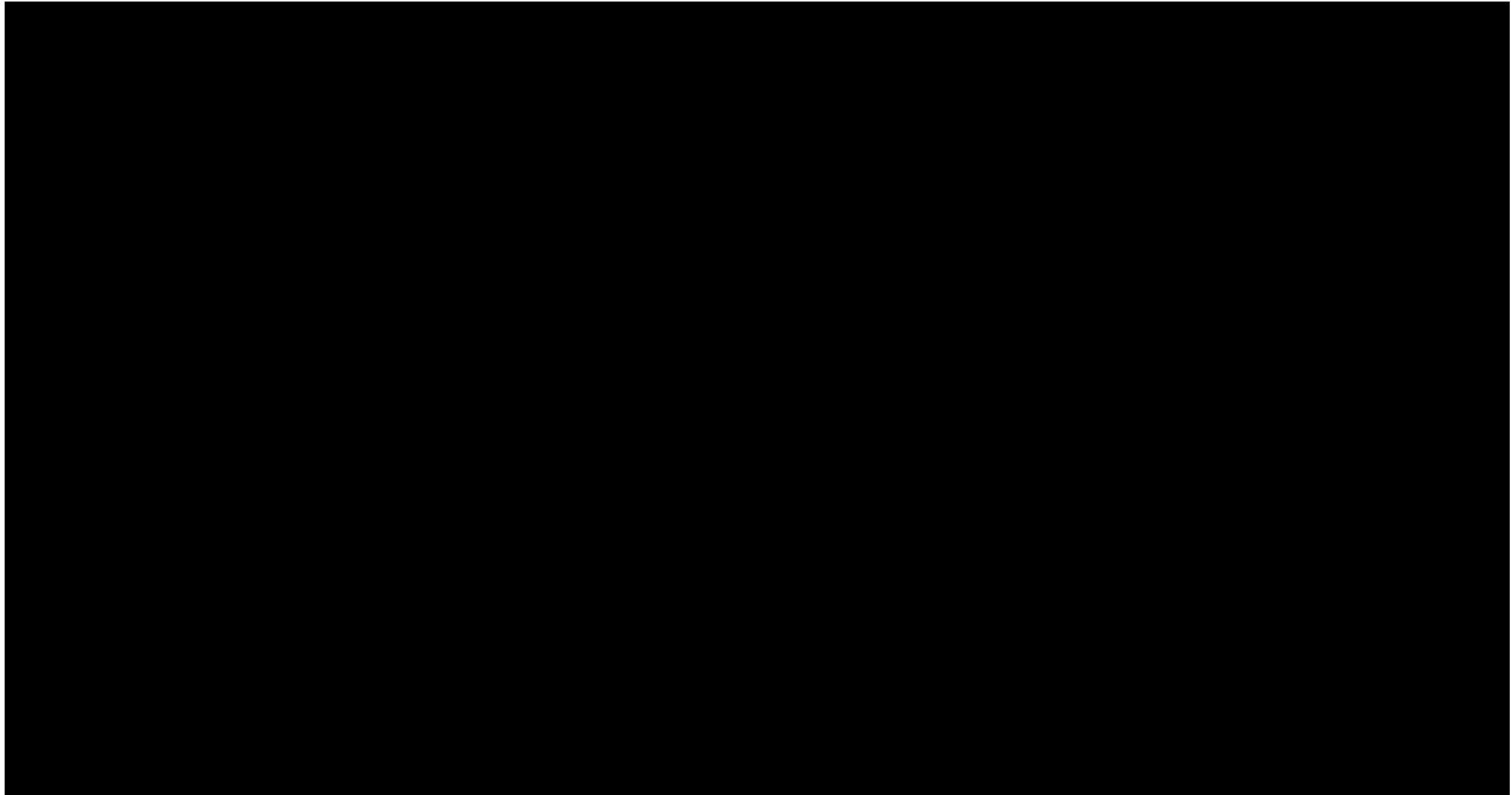
Produce an improved feed ingredient
for poultry



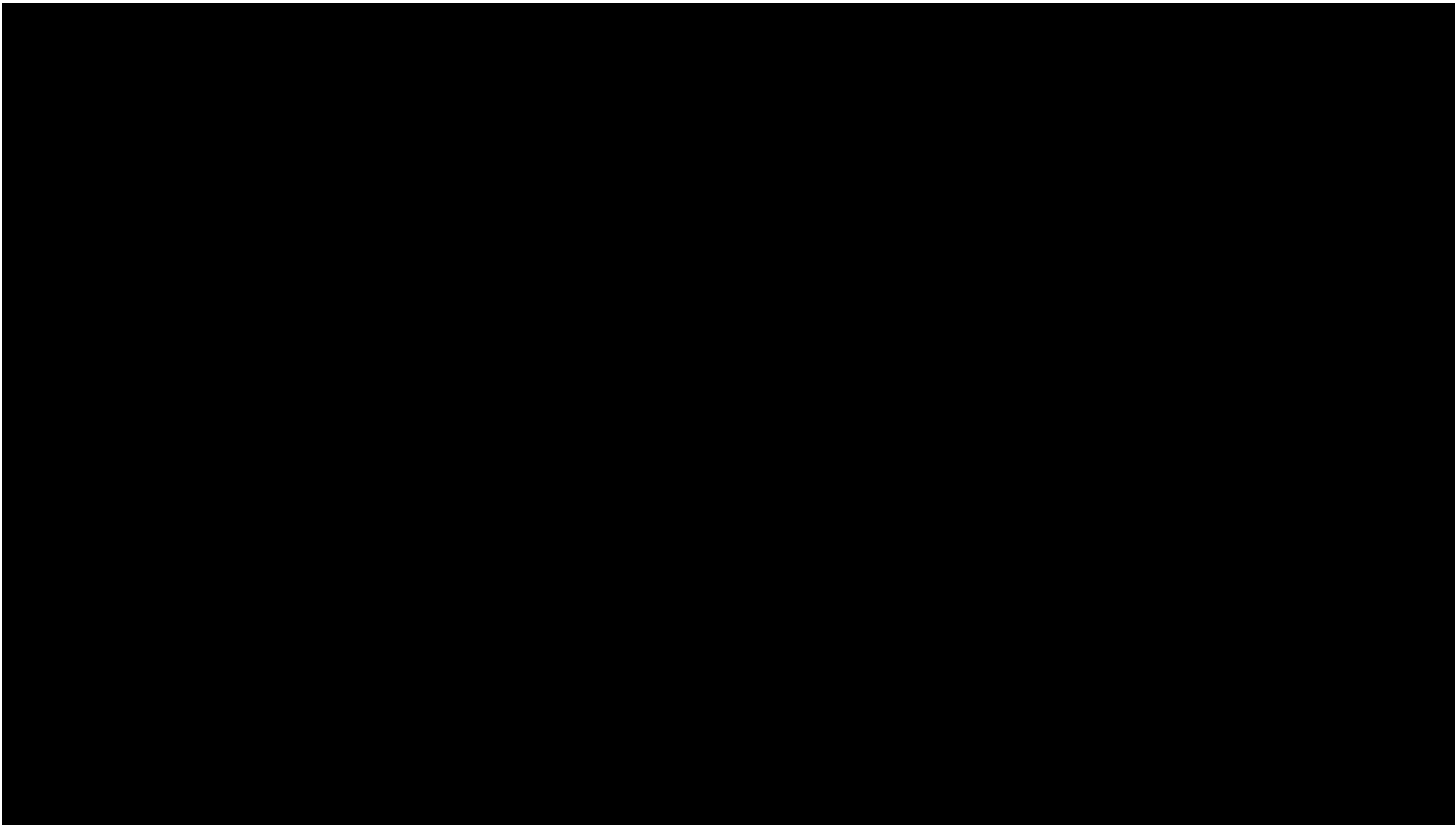
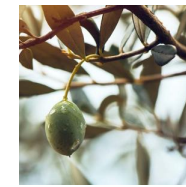
VIDEO – CASE STUDY 1



VIDEO – CASE STUDY 2



VIDEO – CASE STUDY 3





Acknowledgment

The PRIMA program under grant agreement No 2013, project NEWFEED. This project is part of the PRIMA programme supported by the European Union.

Thank you for listening...
Any question?



+34 667 174 315



dsanmartin@azti.es



www.azti.es