



**POWER4BIO**  
REGIONS FOR  
BIOECONOMY



**Junta de Andalucía**  
Consejería de Agricultura, Ganadería,  
Pesca y Desarrollo Sostenible



Cross-visit Andalusia, Seville-online, 21<sup>st</sup> October 2020.

Natac Group

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# OLIVE BIOREFINERY: BOOSTING SUSTAINABILITY OF OLIVE VALUE CHAIN



# General thoughts

- Natac Group - Introduction
- Finding a sustainable model
- Why olive?
- Innovaoleo biorefinery
- Conclusions





# ABOUT NATAC

A business group engaged in **researching, developing, manufacturing and marketing ingredients of natural origin**, mainly plant extracts, for the following markets:



Nutraceutical



Pharmaceutical



Food



Animal Nutrition



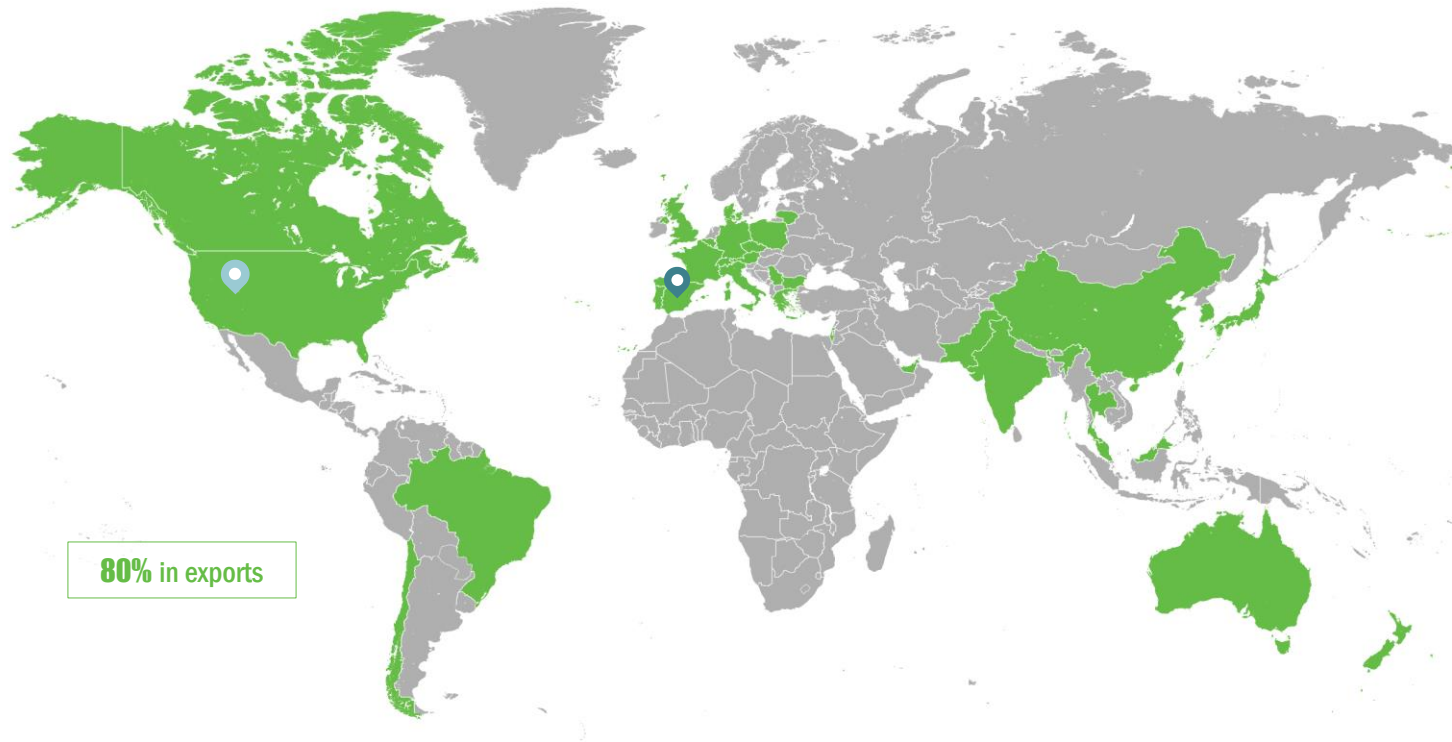
Cosmetics


## Science to Market

*“ Transferring scientific knowledge to industrially viable and sustainable projects that create value and improve the lives of people ” ”*


# Where are we?

The strategic location of our production, R&D and Quality units in Spain guarantees European standards.



 **Central Offices:** Madrid  
**Factories:** Córdoba, Murcia and Extremadura

 **Commercial office**

 **Countries where we currently export our products**

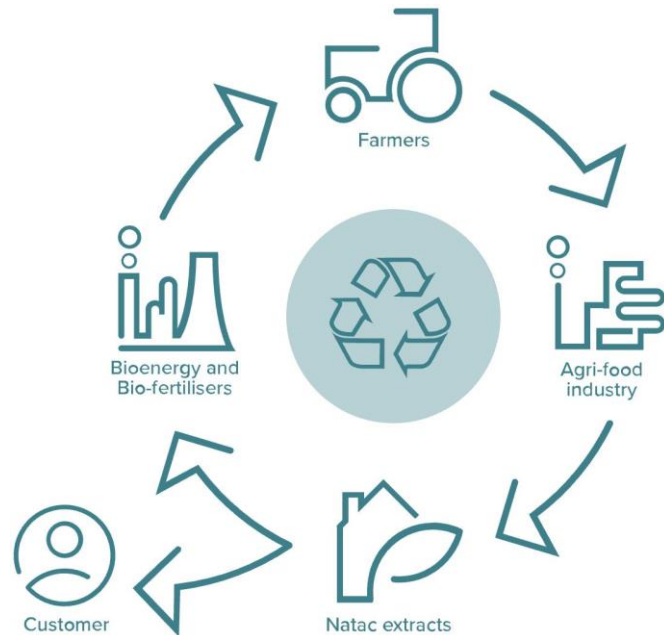


# Sustainable strategy

- 1 Fresh and processing industries of agricultural products generate around 25 to 60% of unused biomass.
- 2 We are wasting natural resources and it may contribute to environmental impact and nutritional/functional waste.
- 3 Natac begins with the evaluation and understanding of the supply chain, specifically the agricultural and industrial processes that use botanical resources to understand what points of the production process have potential.
- 4 We are committed to designing circular bioeconomy strategies for each plant. To upcycle plant by-products as sources for botanical extracts, and convert those resources into value-added ingredients that have an impact on people's health.
- 5 This model leads to a more robust environment.

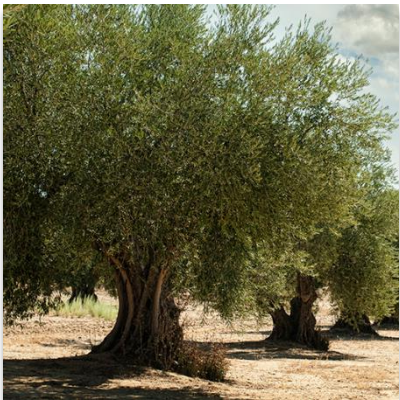
# Business model

A sustainable business model that ensures the full use of botanical resources, converting them into **value-added ingredients** that have an impact on people's health.

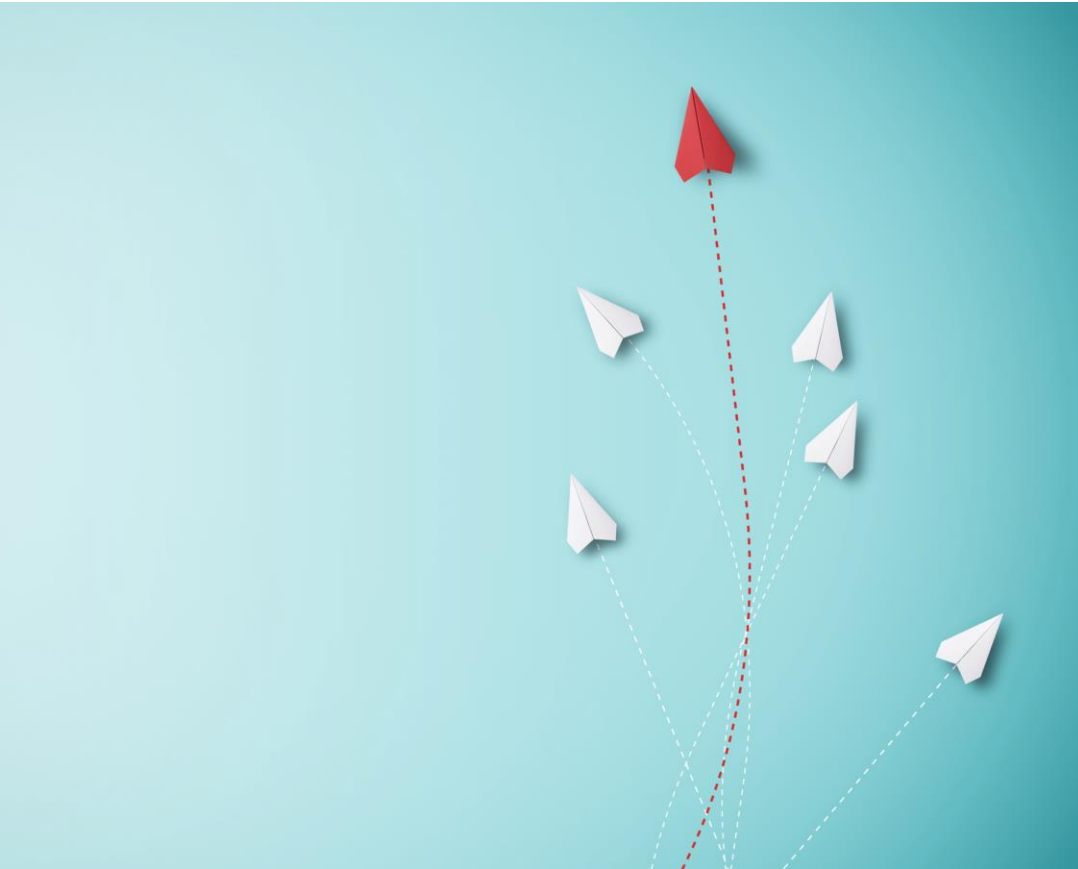


## Benefits of the model:

- Specialisation on Mediterranean plants
- Control from the farmer to your product
- A wide variety and large quantity of raw materials
- Products with various applications
- Innovative ingredients with scientific support



# Competitive advantage



- ✓ Vertical integration
- ✓ Great capacity for diversification
- ✓ High production capacity
- ✓ Sustainable model: bio-economy
- ✓ **Competitive system:** production is integrated in the place where the raw material is located
  - Logistics savings
  - Downstream management
  - Share of costs of industrial installation

# Why Olive?



- ✓ Key industry in Spain – differentiation
- ✓ Biomass is located and available in one place
- ✓ Biomass is available throughout the year
- ✓ Biomass management represent an environmental issue
- ✓ Olive represent a Mediterranean diet flagship appreciated in health market
- ✓ Rich in bioactive compounds present in the market and also with potential for new applications

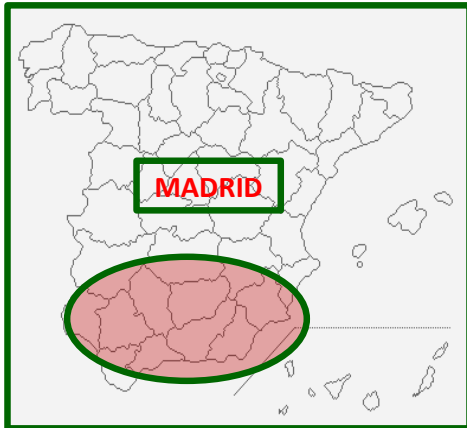
# INNOVAOLEO



1<sup>st</sup> Olive Biorefinery



**LOCATION: Andalusia, where the olive trees grow...**

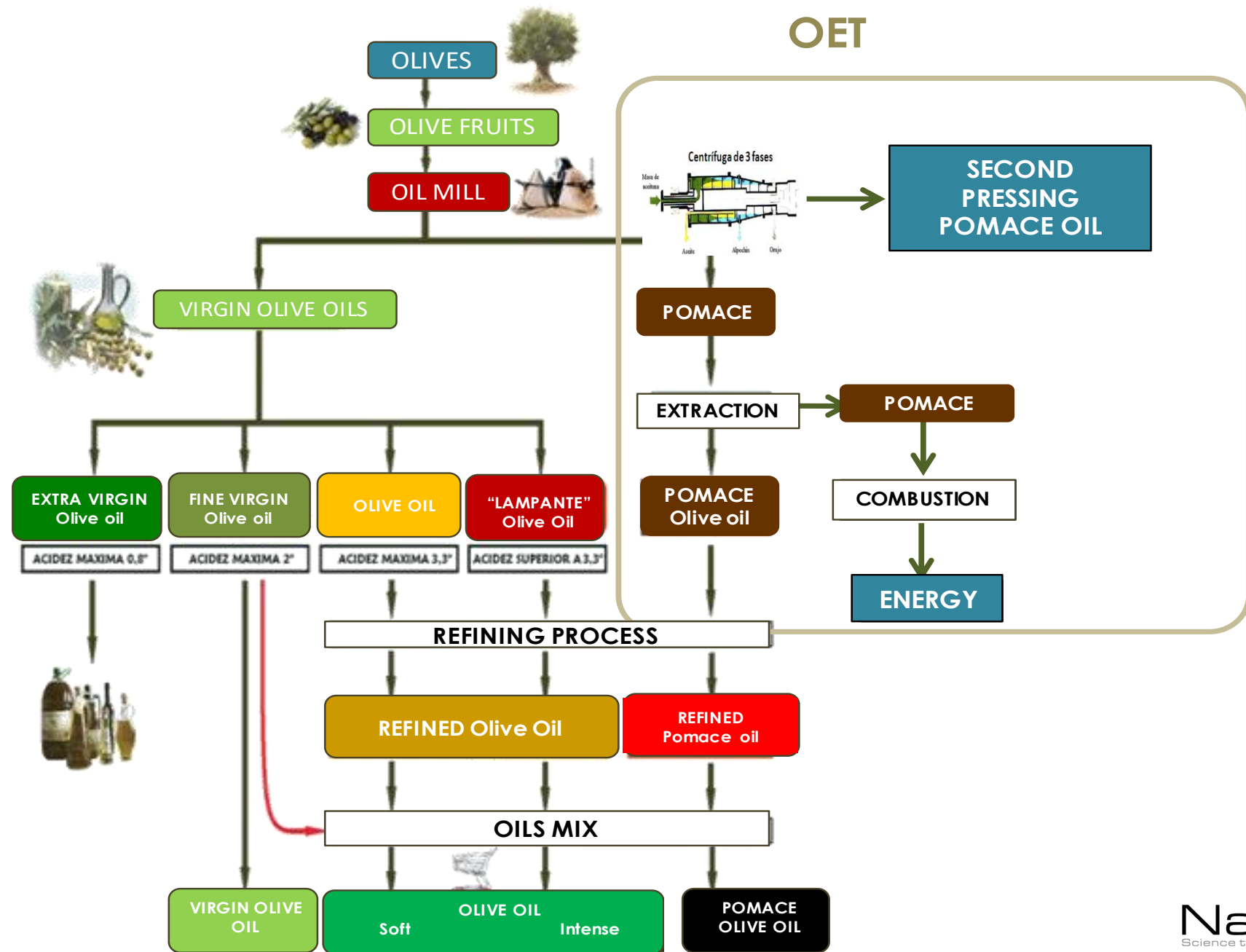


## OUR PARTNER

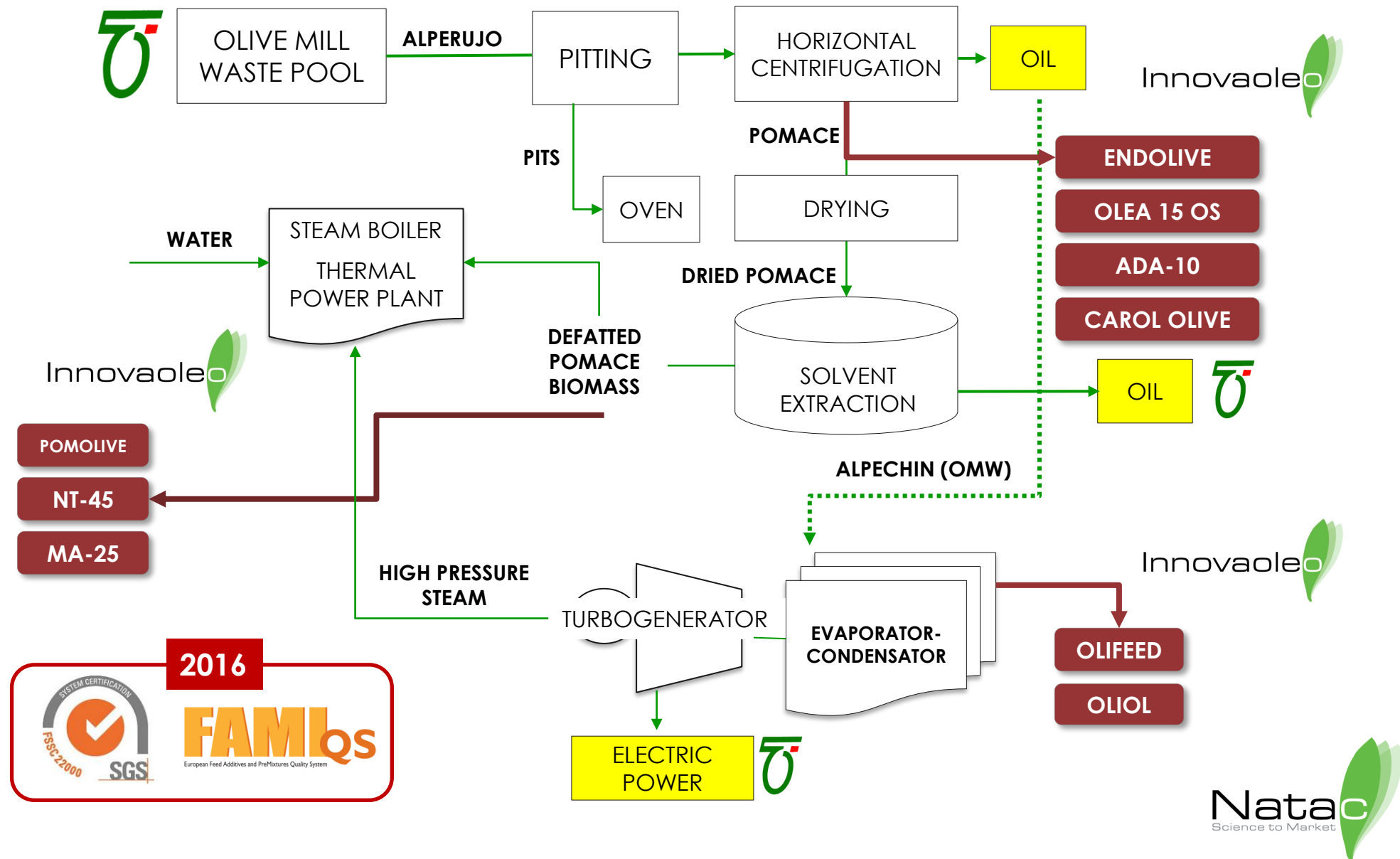


- Second grade co-operative, founded in 1967
- More than 250 cooperatives associated including more than 120,000 farmers
- 300 employees. Total revenue of 70 million Euros.
- Dedicated to the treatment of virgin olive oil byproducts to produce Pomace olive oil energy
- Treatment and recovery of by-products of olive trees
- More than 2,000,000 tons olive byproducts processed annually  
(35% of the total olive byproducts produced in Spain, 15% worldwide)
- Solves an environmental problem

# Olive Oil - Flow Chart



# Innovaoleo - Flow Chart



## Endolive

by NATAC

Natural cardiovascular protection

Olive fruit extract

### Characteristics:

- Patented product
- Olive fruit extract containing (30% Oleanolic acid; 20% Maslinic acid; 10% Hydroxytyrosol; 1%; b-Sitosterol
- Preclinical studies
- Human bioavailability studies
- Efficacy clinical trials
- **Source** - Olive fruit. Pomace olive oil
- **Areas of commercialization** - EU & USA

## Pomolive

by NATAC

Combats Metabolic Syndrome

### Characteristics:

- Innovative unique combination
- POMOLIVE is standardised to triterpenic compounds from olives and apple-derived polyphenols
- Preclinical studies
- Efficacy clinical trials
- **Source** - Olive leaves
- **Areas of commercialization** - EU & USA



## THE PROBLEM

1. Fish demand increases
2. Aquaculture is intensified
3. Industry is seeking natural and sustainable solutions that increase fish health and well being.



***Farmers lose  
productivity and profitability***

## THE SOLUTION

Is an additive that increases fish resilience and quality in a cost-effective way



AQUOLIVE will help fish farmers to **increase their productivity and profitability** while reducing environmental impact and medication.



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**15%**

**Increase in  
farming profitability**

- ✓ 9% Production increase ➤ 9% less feed to reach commercial size
- ✓ Meat quality increased ➤ 8% increase of premium pieces
- ✓ Medication usage reduction ➤ Increased health status

***Contribution to aquaculture  
sustainability – bioeconomy***

**PROVEN RESULTS- REAL TRIAL IN CHILE**



# Conclusions



- ✓ To be feasible, a **biorefinery project** has to bring together and align many actors from very different sectors. These collaborations **require new business agreements, strategic alliances or joint ventures** that are not always easy.
- ✓ It is important to evaluate the possibility of **obtaining multiple products in a cascade approach to improve overall sustainability. Analyze the biomass** options downstream of the production process.
- ✓ It is important to **involve in the business model, actors who already operate in a target sector**, ensuring market access. Especially in innovative products or market niches that are difficult to enter.
- ✓ It is key to **take advantage of existing services** in the already installed bio-industries to reduce the initial investment.
- ✓ The **implementation of models such as collaborative innovation** seems to be key to guarantee success and shorten market access times.
- ✓ Biorefineries require long maturation times with **important investments in R&D**.

The multi-stage biorefinery model provides dimension, competitiveness, differentiation and specialisation that is difficult to replicate

# Thank you!



**Any questions?**

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