



FOOD PROCESSING SUMMIT

WEBINAR

SHEALTHY project

Results of the combined non-thermal technologies

Beatriz Ozcoz –Project Manager- Ctic Cita

SHEALTHY upscales MP technologies

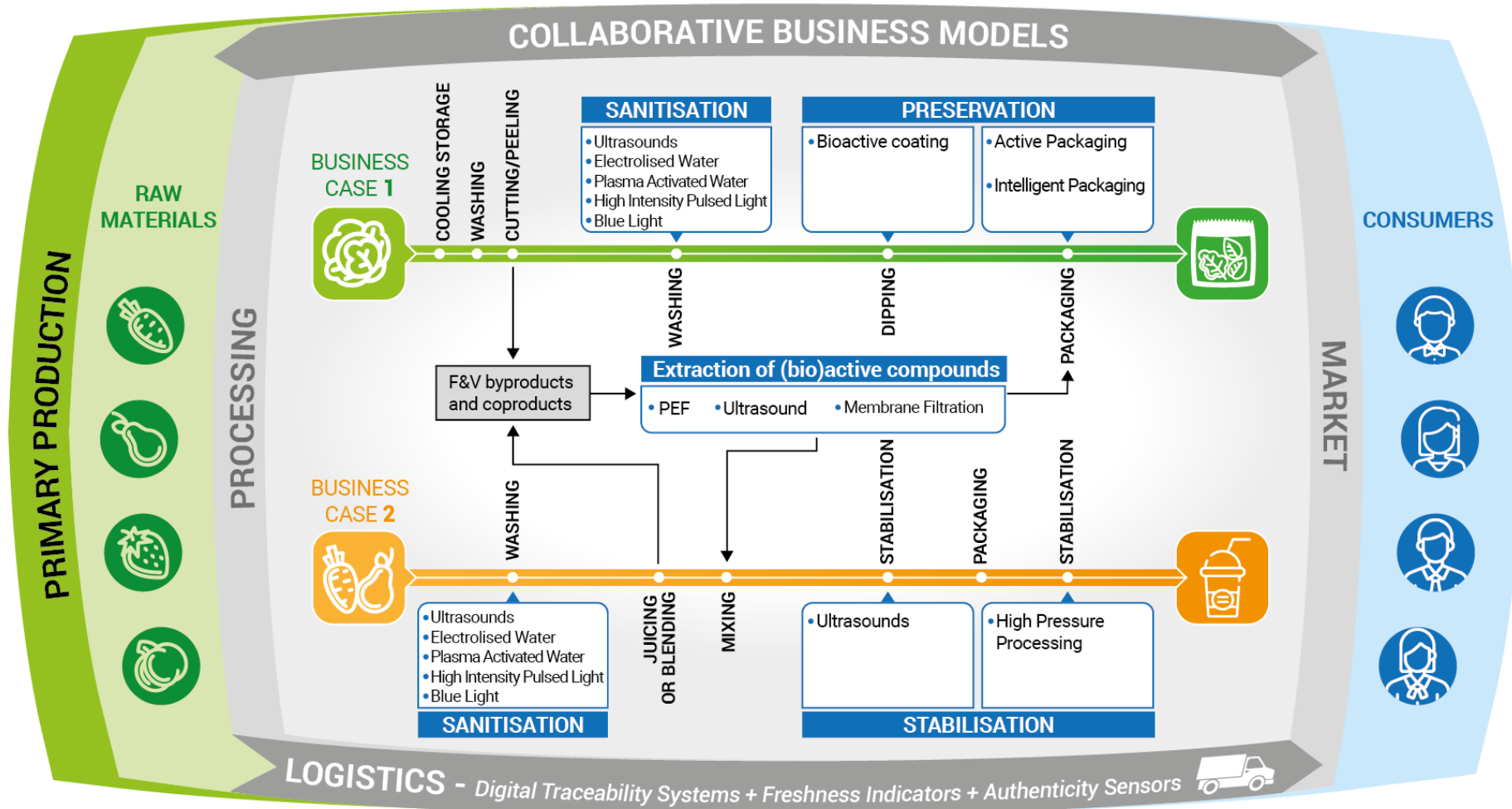
This project will significantly advance the knowledge of minimally processed technologies by demonstrating in a relevant industrial environment (11 pilot tests) the combination of 10 different technologies:

1. Ultrasounds
2. Electrolyzed water (EW)
3. Plasma activated water (PAW)
4. Light technologies (high-intensity pulsed light and blue light) -> UVC
5. Bioactive coatings
6. Active packaging
7. Intelligent packaging
8. High-pressure processing
9. Pulsed electric fields (PEF)
10. Membrane Filtration

SHEALTHY upscales minimal processing technologies

- The commercial viability of these processing methods, including **consumer acceptance, regulatory, safety and environmental aspects**, will be assessed, transferred and adapted to the needs of local SMEs, interconnecting producers through new cooperative business models and new logistics systems to improve the traceability and authenticity of raw materials along the fruit and vegetable value chain
- By combining and modulating non-thermal technologies with a minimal processing operation, the demand for fresh, healthy, convenient, sustainable, locally produced, additive-free food will be met

Collaborative methodology BMS



Collaborative methodology BMS

Business Cases



Juices and Smoothies BC

ékolo

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- **Ekolo Productos Ecológicos, S.A.** is a business project founded in Arróniz (Navarre - Spain) based on the international Slow Food movement that promotes a healthier, more sustainable nutrition. They are specialists in processing fresh fruit directly from orchards.
- Current sanitation technology: thermal treatment
- **OBJECTIVE:** to reduce microbial load in the fresh fruit, prior to the thermal treatment, and reducing the thermal treatment



- **SHEALTHY technology combination:**
 - EW washing + thermal treatment
 - EW washing in US bath + thermal treatment
 - EW washing + thermal treatment (reducing 10°C maximum temperature)
 - US treatment (IRIS)

MP fruit and vegetables BC



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- **Huerta de Peralta** dedicated to the production of vegetables under protected cultivation. During these more than 20 years of activity, the company has undergone profound changes imposed by the no less changing conjuncture of the agricultural sector and, of course, and above all, by the evolution of habits and habits of a consumer in growing search for "The new" and "the comfortable".
- Current sanitation technology: washing with a commercial product (CP)
- **OBJECTIVE:** to reduce microbial load and increase the shelf life of the product



▪ SHEALTHY technology combination:

Sanitation

- EW washing
- UV-C
- EW + UV-C
- CP + UV-C
- EW + CP



Active packaging
(ongoing)

MP fruit and vegetables BC



- **Soto del Ebro S.L.** is a Spanish company, which develops its activity in Aldeanueva de Ebro, province of La Rioja, and within the main area of pear production of the Denomination of Origin "Pera de Rincón de Soto", next to the Ribera del Ebro. With an experience of more than 20 years, its main objective is to produce, store and market pears, especially from the Pera Variety Conference. Its capacity of production and storage, in perfectly conditioned and refrigerated facilities, reaches one million kilos.
- Current sanitation technology: drencher with a fungicide
- **OBJECTIVE:** to reduce microbial load



MP fruit and vegetables BC



▪ SHEALTHY technology combination:





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SHEALTHY project Soto del Ebro success case



Pear Campaign 2022

The treatments apply to the whole pear in Soto del Ebro were:

- Control, with the traditional fungicide.
- Electrolyzed water at 20% (EW)
- Electroperoxidised water (EP)

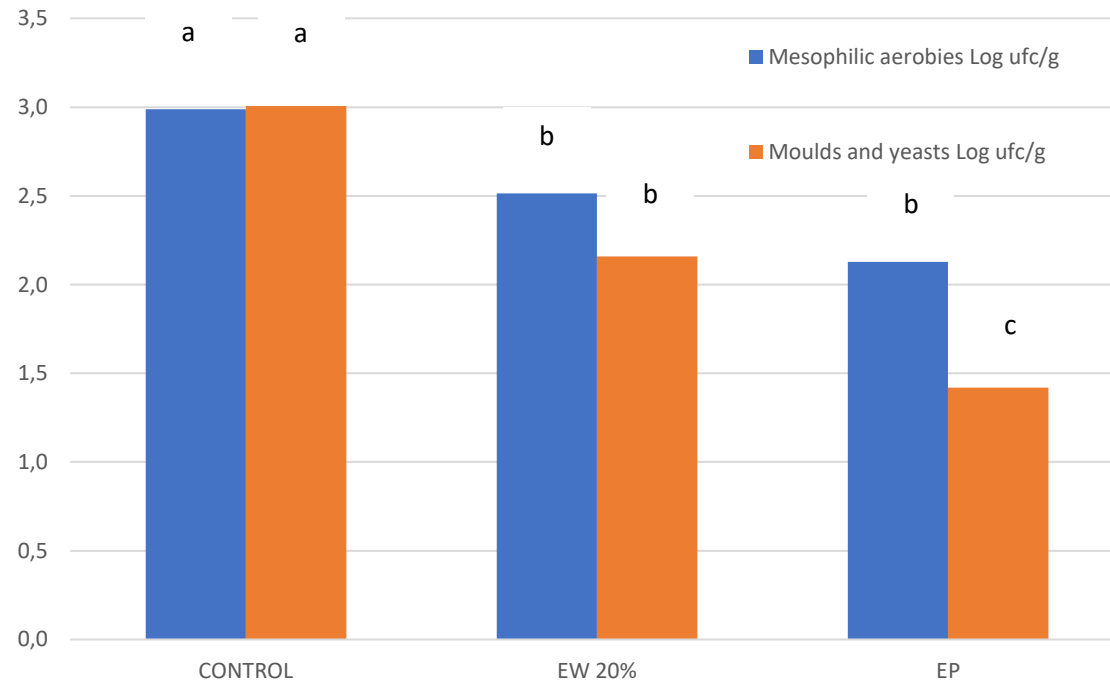
Evaluation:

- Microbial counts after application
- Microbial and fq measurements after 4 month in CA storage (January 2023)

Succes Case



Microbial counts after application



Succes Case



Microbial and fq measurements after 4 month in CA storage

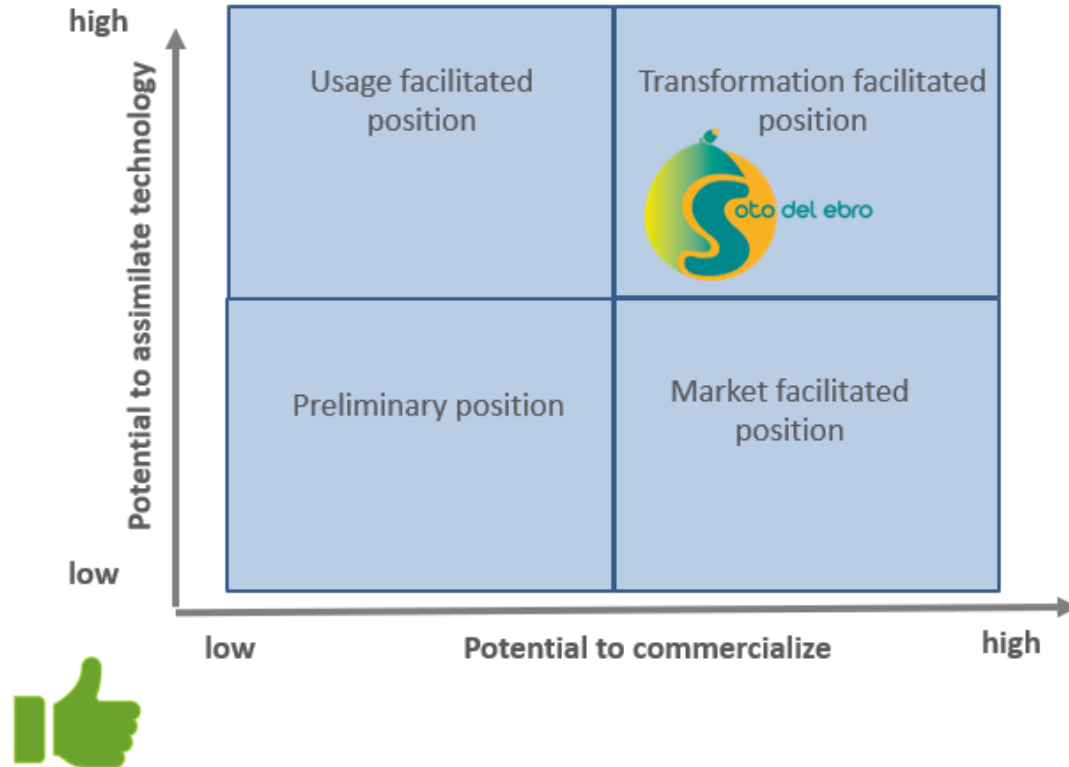
30th of January open CA chamber and evaluate microbial and physico-chemical parameters



Succes Case



Technology transformation evaluation



The company has both the assimilation and commercialization capabilities to be successful in the technological transformation of the new technology



Thank you!



bozcoz@cticcita.es



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