

New intelligent ripening equipment for aging gourmet artisan cheeses

Project Details:

- Acronym: CAFIQUE
- Start date: March 2025
- End date: December 2026
- Funding: HAZITEK 2025

Description:

The CAFIQUE project aims to develop new intelligent maturation equipment specifically designed for small and micro artisan cheesemakers, capable of delivering precise, real-time control of temperature, humidity, gases, and airflow. These innovative solutions integrate advanced sensors, predictive numerical models based on Computational Fluid Dynamics (CFD), and automatic optimization algorithms that enable more homogeneous, efficient, and sustainable cheese-refining processes. The project addresses a real need within the sector, where no equipment currently exists that is adapted to small-scale production, and seeks to improve final cheese quality, reduce product losses, promote energy sustainability, and strengthen the competitiveness of artisan cheesemaking operations.

Participants:

- KIDE S.COOP (Leader)
- Leartiker S.Coop
- Mondragon Goi Eskola Politeknikoa (MGEP)

Activities carried out by Leartiker

1. Production and maturation of different types of cheese in a pilot environment to analyse equipment performance.
2. Evaluation of the physico-chemical, microbiological, and sensory quality of the cheeses matured in the prototypes.
3. Validation of the accuracy, precision, and drift of the sensors installed in the equipment.



4. Study of the impact of external climate conditions and chamber occupancy on the stability of maturation environmental parameters.
5. Contribution of technical cheesemaking expertise to define the final performance requirements that the intelligent equipment must meet.

