



## FROILOC

# Ultra-clean cold filling focused on a food production line

FROILOC is a project that integrates ultra-clean cold filling for food production lines. The objective is to offer manufacturers solutions that guarantee food safety, provide enhanced conditions for operators and save on energy.

Carnot AgriFood Transition Institute

### Scientific / technological breakthrough

Alternatives to total refrigeration of the production workshop already existed – laminar flow booths, air supply ceiling fans or clean rooms, for example – before FROILOC project researchers took up the subject of ultra-clean cold filling. But such technologies require operators to adapt to cumbersome arrangements and the equipment needs to be acquired. After questioning manufacturers about their needs, several iterations of theoretical research and simulations were performed to identify the parameters that need to be taken into account. Two different components of Carnot AgriFood Transition Institute were involved: OPAALE worked on air flow mechanics and the cleanliness of the work area while Pôle Cristal designed the equipment. The R&D findings were used to create a 1:1 scale prototype that eliminates all physical separation between the work area and the operator, who retains freedom of movement.



### Competitive advantage for the economic stakeholders

In the product area «Class 1000» cleanliness levels are largely provided for and temperatures of 1°C are maintained. Energy consumption is also a key feature as FROILOC significantly reduces cooling power.

