



RESOUL

Aroma recovery system



DEPARTAMENT OF CHEMICAL
AND BIOPROCESS ENGINEERING



INDUSTRIAL SECTOR
FOOD INDUSTRY



DEVELOPMENT LEVEL
TRL 9

PROBLEM



During the fermentation of wine and other beverages, a significant proportion of volatile aroma compounds is released into the environment and irreversibly lost, affecting sensory quality and wasting compounds with high commercial value. To reduce these losses, many wineries ferment at low temperatures, increasing energy costs and limiting production capacity. This challenge also affects breweries and juice producers. Current solutions reduce losses but do not allow the released aroma compounds to be recovered or reused, leaving their value-creation potential untapped.

SOLUTION



ReSoul is a technology that captures, recovers, and manages aroma compounds released during fermentation. The solution incorporates equipment connected to fermentation tanks that condenses and stores aromas that would normally be lost as gases. It also uses an aroma-characterization methodology that identifies and recovers specific profiles according to the fermentation stage. ReSoul thus transforms a loss from the production process into a high-value resource that can be reused to enrich foods, develop ingredients, and create beverages with customized sensory profiles.

MARKET



The global wine market exceeded USD 549 billion in 2025 and continues to grow, driven by demand for premium and differentiated products. Within this context, ReSoul targets industries in which aroma is a strategic quality attribute, including vineyards and wineries, breweries, producers of juices and functional beverages, and flavor and ingredient companies. The technology enables the development of natural aroma ingredients, the design of customized sensory profiles, and the valorization of recovered compounds for new food and beverage applications.



Professor
Ricardo Pérez Correa

Intellectual property

Two patent families with granted patents in Chile, the United States, and Europe.

Intellectual property

TRL 9: technology validated and ready for commercialization.

ADVANTAGES



Recovers aromas with high commercial value.



Enables the design of customized aroma profiles.



Increases productivity without compromising quality.



Reduces energy costs and supports product differentiation.