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Innovative and sustainable solutions at different stages of the value chain

The aim of this project is the innovation of the wine-production value chain. From vineyards to waste management, passing through the wine cellar and the monitoring of products and procedures, many innovations will be implemented at every stage of the value chain.

VITICULTURE

Remote management of vineyards with drones and robots, objective evaluation of grape maturation with smartphones thus allowing fine-tuning based on real needs, combining profitability, technology, tradition, excellence, typicality, and sustainability.

OENOLOGY

Use of alternative adjuvants, exchange resins and appropriate procedures to produce free SO_2 wines (<10 ppm).

Lower-alcohol wine with a pleasant taste! Wines produced via innovative membrane processes, more sustainable from an energetic standpoint, which decrease its alcoholic content whilst saving its sensorial properties.

Selective polyphenol removal to enhance wine quality and reduce waste out-streams with potential recovery of nutritional substances.

Cold stabilized grape juices with high polyphenol content.

WASTE VALORIZATION

Design and realization of fixed-bed gasifiers to produce thermic and electric energy, and biochar – the latter capable of carbon sequestration and useful for the enhancement of soil fertility. Recovery of substances of interest to the health sector and for bioplastic materials production. Production of composite building materials and of ceramic materials with controlled porosity.

ICT

Design and realization of a WLAN sensors network to monitor the main parameters during the winemaking processes.

ICT technologies to monitor vineyards and manage energy savings.

