

Service ID S00332

Location Italy



Testing of sensor technology in the wine-making process

Provider service

Fondazione Edmund Mach (FEM)

Link to content

<https://agrifoodtef.eu/catalogue-of-services/testing-sensor-technology-wine-making-process>

Type of Sector

Viticulture

Accepted type of products

Data, Physical system, Software or AI model

Type of service

Collection of test data, Data analysis, Performance evaluation, Provision of datasets, Test execution

Description

FEM experts will support companies in developing fully integrated, real-time solutions for smart monitoring of the winemaking process. Through its micro-vinification facility, consisting in temperature controlled tanks, sensors, and dataloggers, as well as enology laboratories, test and validation of artificial intelligence engines and visualization platforms will be supported, with the final goal to provide precise and accurate solutions for monitoring, with relevant impact on operational efficiency, as well as for driving the vinification precisely as desired, in terms of automation and repeatability of winemaking.

How can the service help you

FEM researchers and technologists have decades of experience in the wine-making process and state-of-the-art oenology laboratories. They will support through instrumental analysis the calibration of the automation and temperature control during the fermentation process to assess AI-driven control systems. Nowadays, wine-making equipment (presses, fermenters, etc.) can be controlled and programmed, but to achieve a particular style of wine requires experimentation and transfer of experience, which can be used to fine-tune AI models.

How the service will be delivered

Requirements and feasibility of services will be assessed individually. The micro-vinification winery will provide single controlled tanks to process both red and white international and local grape varieties and quantities from 1 to 40 kg.

Service customisation

The activities will be hosted at FEM's micro-vinification cellar facility, and they will be concentrated mainly during the harvest period (August-October). The customer will have the possibility to install their own equipment and run fermentations, supported by FEM oenologists and laboratories. Data, models, and reports will be provided digitally, some of them in real time, others at the end of the analyses that follow international standards (UNI CEI EN ISO/IEC 17025).