



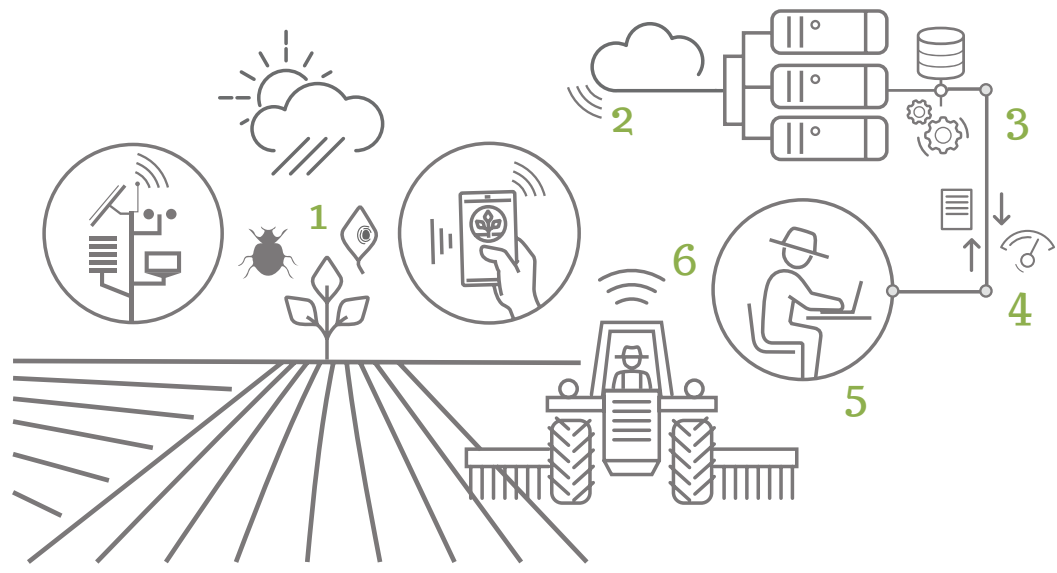
# vite.net<sup>®</sup>

## ENHANCE YOUR GRAPE PRODUCTION

### What is vite.net<sup>®</sup>?

vite.net<sup>®</sup> is an interactive web tool for the sustainable cultivation of grapevine.  
vite.net<sup>®</sup> represents a DSS, i.e. an expert Decision Support System.

DSSs are IT platforms that gather crop data in real-time via sensors and scouting tools (1). These data are then organized in cloud systems (2), interpreted using advanced modelling techniques and big data (3), and automatically integrated to provide information, alarms and decision support (4). Users use this information for precision agronomic crop management (5). Data relative to farming operations are also entered into the system (6), in order to generate a continuous flow of up-to-date information between the crop, the DSS and the user.



#### SYSTEM ARCHITECTURE

Information on the crop and cultivation environment reaches vite.net<sup>®</sup> continuously through sensors and monitoring activities.



#### HOLISTIC APPROACH

vite.net<sup>®</sup> considers all aspects of crop management.



#### WEB APPLICATION

No software needs to be installed on the computer. considers all aspects of crop management.



#### EASY AND CLEAR

vite.net<sup>®</sup> is able to convert complex weather and crop processes into easy and clear operative choices in the field.

# Behind vite.net®

vite.net®, as well as other Horta's DSSs, are the result of a complex process of innovation and knowledge transfer and years of experience.



## Agrometeorological network

Horta manages a network made up of hundreds of agrometeorological stations distributed all around Europe. Real-time weather data, gathered through and controlled by a certified system, are key input data for running the DSS.



## Experimental Platforms

### RES UVAE (Castell'Arquato, Piacenza)

On its experimental platforms, Horta develops and tests the innovative techniques inserted into the DSSs. The platforms can be visited throughout the season to "first-hand" assess the effectiveness of the innovative techniques and technologies proposed.



## Customer Service

Horta provides a complete service: users are trained for the use of the platform in order to take full advantage of the potential benefits provided by the use of the DSS. Horta also produces newsletters that provide in-depth technical information and suggest how to use the platform to meet the needs of the crop, during crucial moments of the season.



## R&D

Horta's DSSs have a very innovative content. The innovation is generated via constant and intense research, carried out in collaboration with top universities and research centres in Italy and abroad.

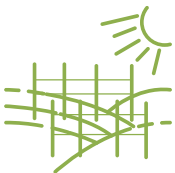
## How does vite.net® work?

vite.net® is an expert system that integrates various sources of information to produce simple and effective advice and alarms. The DSS does not replace the technician and the farmer, but provides them with additional information for improving decision-making processes concerning the agronomic management of the crop.



### Localization

Every plot inserted into the DSS is geolocalized, so that the system can take into account the geographical characteristics of the cultivation site.



### Soil

The DSS takes into account soils' physical and chemical characteristics of the different plots, in order to identify proper crops' water and nutrition requirements.



### Product characteristics

The DSS uses constantly-updated fertilizer, phytosanitary product and herbicide databases, where all products technical characteristics are included, to help select the most suitable product for every specific application, also in relation to anti-resistance strategies.



### Varieties

The DSS takes into account specific characteristics of different varieties, simulating both canopy and bunch development.



### Weather and Forecast

The DSS obtains hourly weather data, both registered and forecast data, and uses them to run mathematical models and provide decision supports to users. For this reason, vite.net®, as well as, other Horta's DSSs, are efficient tools for adapting crop management to climate change.



## Who needs vite.net® ?

vite.net®, as well as other Horta's DSSs, are flexible tools that can bring tangible advantages to a variety of users.



### Technicians

Technicians from public bodies and producers' organizations, private consultants, sales network technicians of technical means can all use Horta's DSSs to provide farmers with scientific, knowledge-based advice. They can organize their work and farm visits on the basis of alarms provided by the DSS, thus optimizing work time and capacity.



### Producers of technical means

For producers of technical means (varieties, fertilizers, phytosanitary products, biocontrol agents, etc), Horta's DSSs represent tools for improving their products, and for allowing users to take advantage of the varieties' genetic potential and of products' specific features.



### PO/Groups

Producers' Organizations can use Horta's DSSs to: i) monitor suppliers' production processes; ii) control the achievement of specific production objectives; iii) organize supply operations; and iv) provide homogenous batches with particular characteristics to their clients.

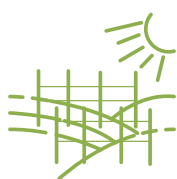


### Winegrowers

Thanks to Horta's DSSs, farmers can increase yield, improve grape quality and health, reduce production costs and negative impacts on human health and the environment, in line with modern principles of economic, environmental and social sustainability, with integrated production and IPM (Integrated Pest Management). The use of DSSs also helps to control, with awareness, the whole production process.

# By your side every day

Horta's DSSs consider all main aspects of crop cultivation.



## Vine development

vite.net® includes a model for plant development that simulates bud burst, leaves development on the main shoots, and inflorescences and bunches development.

**Plan crop management operations according to plant development.**



## Pest and disease management

Through predictive infection models, vite.net® can help control diseases and pests (mildews, black-rot, bunch rot, European grapevine moth, mealybugs and American grapevine leafhopper), assess the need to intervene, and choose the best plant protection products to apply.

**Control diseases and pests effectively, reducing the number of treatments.**



## Weed control

In case of chemical weed control, vite.net® enables to adopt the best strategy for weed control, based on the susceptibility of the different weeds and the time of application.

**Efficient weed control with reduced number of treatments.**



## Fertilization

vite.net® estimates the Nitrogen, Phosphorus and Potassium availability in the soil layer where roots are present, and, based on the soil chemical/physical characteristics and water availability, provides information on possible deficiencies that could damage grape production.

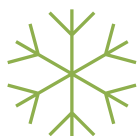
**Avoid nutritional deficiencies and schedule fertilizations based on the availability of nutrients and water in the soil.**



## Water balance

vite.net® estimates soil water availability and needs, based on soil physical/chemical characteristics, roots depth, plant evapotranspiration, rainfall recorded by weather stations and irrigations registered in the system, thus avoiding the risk of stress in drought years.

**Avoid water stress of the crop, plan any irrigation and fertilization taking into account soil water availability.**



## Frost and high temperature alert

vite.net® can be used to estimate, during each phenological stage, the percentage of buds or young shoots potentially damaged by sudden temperature drop down. vite.net® also alerts you when high temperatures can cause direct damage to the bunches.

**Alert wine growers on potential damage caused by cold or hot temperatures.**



## Traceability

The Register of Crop Operations in vite.net® enables you to record all the operations carried out in the field, from soil tillage to harvest.

Complete view of all crop and farm management operations.



## Sustainability

vite.net® assesses the environmental impact of crop and farm management through aggregate indicators (health, soil, air, biodiversity, energy, water).

Environmental impact of crop management.

## Why use vite.net®?



**REDUCE  
PRODUCTION  
COSTS**



**REDUCE NEGATIVE  
IMPACTS ON  
HEALTH AND THE  
ENVIRONMENT**



**COMPLY WITH THE LAW**

D.2009/128/EC and National Action Plan

To guarantee higher quality and control of its services, Hort@ obtained in 2018 a certification for vite.net® by the accredited and independent certification body [CCPB di Bologna](#).