

DeVines









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How to optimize vine growing practices to face issues of tomorrow ?

What are the issues of tomorrow?

An economic issue linked to operating performance.

An environmental issue

linked to climate change.

A management issue related to remote employee management.

A qualitative issue linked to the constraints imposed by appellations and certifications.





What does Devines provide?

DeVines answers to 3 main problems known in the wine area

Yield Forecast

Several factors influence vine growth. From one row to another, the ripening of the fruit changes. Currently, random sampling is the means used to check maturity.



) The receiver captures the evolution of the berries within the plots. Algorithmic processing analyzes the evolution of the berries and makes it possible to estimate the yield per vine.



Sickness detection

Climate change has an impact on the yield and quality of bunches of grapes. Abnormalities, diseases and missing porcini mushrooms are recurrent.

Researchers fear the development of partially known emerging diseases, which will threaten the development of the vine and the quality of the grapes*.



Using receiver technology coupled with artificial intelligence, DeVines detects and reports these irregularities in real time.

* Hochschule Geisenheim University, 2018, *Les impacts du changement climatique sur la viticulture : une vision européenne.*



Detection and recognition

Keep an eye on the development of your plants daily is not easy, however, it allows you to plan and act quickly according to the task at hand.

The limit of this practice is obviously the presence of the various employees on site.



Equipped with cameras and sensors, \Box the receiver detects, recognizes and geolocates each cluster of a plot.



Position of dead and missing plants

It happens that some plots are dispossessed of some of their vines due to disease or drought, forcing the manager to review his production organization.

- \mathbf{Y}^{\prime} Thanks to the different cameras and \mathbf{Y}^{\prime} the geolocation of the receiver,
 - DeVines offers its users the possibility of locating missing vines while updating their production data.



Remote management

The passage of employees through the rows of vines is a source of information to detect anomalies. However, this intangible data is difficult to trace and share.



The application allows employees to report the precise geolocation of anomalies and illnesses. This data is then stored and can be consulted by the manager.





Technical aspects of the DeVines project

eHermes receiver

Embedded receiver collects data for accurate viticulture analysis. The receiver rotates 360° and the cameras simultaneously capture images to detect anamolies and potential diseases.



Ability to incline 180°



Geolocation in real-time



Embedded system is compatible to be placed in any kind of metal structure



Autonomous and connected



Precision Mapping

Our eMaps mapping database is powered by Copernicus satellite data and eHermes data. This combination makes it possible to generate a precise multi-level mapping system, from the extent of the vineyard to each vines.

eMAPs Database



Automatic image processing



Artificial intelligence



Predict the yield by determiningnumber of grapes per branch



Smartphone Application

The connected system allows the user to view all collected data on the smartphone, on real-time. It aides in monitoring the progress of current tasks, alongwith instant communication between employees.



Individual allocation of work tasks



Track in real-time the tasks' progress



Communication with the employees



Track the active receivers on the map









DeVines connected app by Wifi and bluetooth signals





Personalized support to follow the development of the vineyard.



the employees.

allows the users to communicate remotely via the application.

the mobile application



Accelerate the management of your plots

by collecting quantitative (number of leaves or bunch of grapes) and qualitative data (fruit size), DeVines allows you to constantly monitor your wine domain.



Manage your human resources

It is sometimes problematic to combine the daily viticulture activities due to the wide distance. DeVines provides instant communication via a dedicated mobile application.



Track the development of your plots over the season

The data collected regularly is a vital source of information to help you manage the highlights of your crops while minimizing the risks.



First presentation

Discuss field needs and improve the prototype.



Presentation of the prototype on site

Collect first impressions of the product and discuss service improvements.



Experimentation phase

Test the DeVines service for free over a given period and participate in improving its technology. Let's team up, let's build the solution of tomorrow together. The experimentation phase will begin in 2021.



DeVines

Let's merge Viticulture and Technology. Let's work together !

Thank you.









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European Global Navigation Satellite Systems Agency

A project developed by



Benjamin Kawak

Founder of 3D Aerospace



Betty Cabon

X factor

