

PRECISION AGRICULTURE

| AGRICULTURE | WINERY | VITICULTURE |

THE CLIENT

RÉMY
MARTIN



Rémy Martin, founded in 1724, is a world-renowned French cognac producer – one of the most prestigious in existence. The company produces approximately 80% of all fine champagne cognac in the world.

Associated UAV packages:

- ✓ Crop Mapper
- ✓ Crop Mapper XL
- ✓ Ultimate

THE NEED

ASSESSING YIELDS

The Rémy Martin Group operates one hundred vineyard parcels for producing their cognac. These plots are situated in a 10 km radius surrounding the French city, Cognac. Rémy Martin needed to assess the expected return on investment (ROI) on its various plots as well as any particular farming input requirements. Currently, the common method for these assessments is accomplished by sending ground-based staff on-site. The use of aerial or satellite imagery is currently not a common practice for them. Rémy Martin needed multispectral image acquisitions on all parcels within 3 days to maintain consistency in the obtained data.



To address the needs of Rémy Martin, Delair-Tech deployed the Crop Mapper long range UAV package which is based on the BVLOS-certified DT18. The high endurance of the Crop Mapper package allows operators to execute large swaths of multispectral image acquisitions in a single flight. After the initial acquisition over Rémy Martin's vineyards, Delair-Tech uploaded the data to its Delair-Analytics data center to extract the most useful pieces of information for this agricultural operation: NDVI information, orthophotos, and high-resolution maps of the entire property.

THE SOLUTION



PRECISION AGRICULTURE FOR RÉMY MARTIN

THE OPERATION

Delair-Tech's Crop Mapper drone flew missions for consecutive 3 days to create a map of the entire area in the RGB-NIR (red, green blue – near infrared) bands with a GSD between 4 and 10 cm (depending on the spectral band). The size was approximately 10,000 hectares and one hundred plots were flown in 7 DT18 flights.



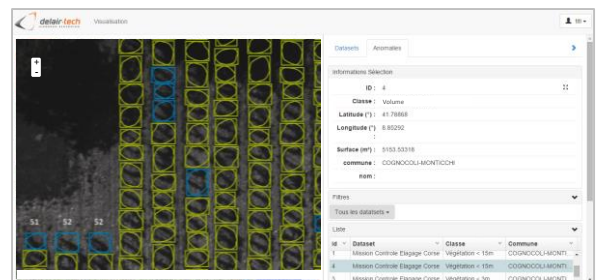
DATA ANALYSIS

Putting the data to work. After the 3 days of flight, the data was uploaded to the Delair-Analytics servers where post-processing of the data took place to extract the most useful pieces of information for management of the plots:

- Creating a 2D orthophoto of the entire domain at 4cm GSD
- Creating a NDVI crop health map of the fields
- The combination of RGB + NIR bands for the NDVI map resulted in a 10 cm GSD

DELIVERABLES

- » A report that identifies areas of crop stress, malnourishment, or disease
- » A single, aerial orthophoto map of the entire domain – rectified for accuracy
- » All results available on Delair-Analytics' web visualization tool for viewing and archiving past results



CONCLUSION

- ✓ DT18's superior range allows high coverage of multiple plots of land in just one single flight
- ✓ Data from the NDVI maps allow management of crop growth
- ✓ Final results of the flights were obtained days later
- ✓ Responsiveness and ease of deployment of DT18-based systems allow freedom to adapt to surrounding weather conditions

