



## **CUSTOMER** FEEDBACK

**Optimize the maintenance of your photovoltaic panels through drone inspection**



## BACKGROUND

A client from the wine industry had photovoltaic panels installed on the roof of their estate's château three years ago.

- Approximately 4,000 m<sup>2</sup> of photovoltaic panels
- The installation features very complex access due to the roof's configuration and the type of building

## REQUIREMENTS

- Check the waterproofing of the roof
- Ensure the proper functioning of hard-to-access photovoltaic installations
- Optimize the necessary maintenance operations
- Minimize intervention time
- Find a partner able to operate during low activity period

## APAVE SOLUTION

- Coordinate both interventions on the same day : the roof waterproofing inspection and the thermographic inspection of the photovoltaic panels
- Perform the PV installation inspection using a drone to increase efficiency, reduce turnaround times, and ensure optimal safety levels

## CHALLENGES

The client wants to have the roof's waterproofing inspected following the installation of photovoltaic panels in a specific context, and to ensure the performance of their PV system after three years of operation.





# PROCESS

## 1 Apave teams' operation

An Apave inspector carried out a waterproofing inspection of the roof, which was found to be compliant. No infiltration was detected at the roof level.

The thermographic inspection of the photovoltaic panels was performed by drone.

## 2 Drone intervention

- Drone flight authorization request was made by the Apave team to the affiliated aerodrome. With no traffic in the area, flight authorization was granted very quickly.
- Equipment used : MAVIC 3T drone, natively equipped with an infrared camera and a standard photo lens (essential for comparing infrared and standard images to optimize the identification of potential issues).
- The roof inspection was carried out using the drone (approximately 15 minutes of flight time for the 4,000 m<sup>2</sup> installation).
- Photos taken by the drone were transferred to an Apave expert for data analysis.
- An intervention report was drafted, including recommendations for maintenance and safety actions to be taken if necessary.

## 3 Deliverable

A mission report including photos, an intervention summary, analysis, and synthesis.



# Results obtained

## RESULTS

The thermographic inspection mission of the photovoltaic panels using a drone highlighted malfunctions in the photovoltaic modules, which caused :

- A loss of electricity production
- A risk of serious damage
- A fire hazard

## BENEFITS

The interventions by the Apave teams enabled the client to :

- Reduce the fire risk of their PV installation
- Boost the energy production of their PV panels
- Secure their installation with respect to their insurer
- Accurately identify the panels to be replaced and the cleaning operations to be performed



We support you

Contact us for your photovoltaic projects