

USE CASE

VEGETATION ENCROACHMENT

EDF (Electricity of France) is a French Electric utility company who, with a portfolio of 120,000+ megawatts, is the largest producer of electricity in the world.



40K
IMAGES
ACQUIRED

4
FLIGHT

8
HOURS FLIGHT TIME

150
KM OF NETWORK
FLOWN

49
ANOMALIES
DETECTED

THE NEED

EDF spends the majority of its maintenance budget on pruning vegetation that is near power lines. Vegetation that is too close to live electrical cables can cause network outages or fires. To avoid this, they must assess the presence of trees and vegetation in critical areas.

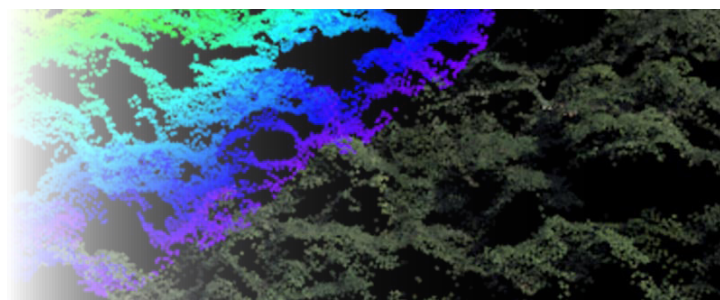


Today these assessments are made by people on foot and observers on helicopters. These methods are expensive, unresponsive, and inefficient. EDF asked Delair-Tech to deploy its next-gen acquisition solutions and image processing techniques to identify vegetation encroachment hotspots.

THE SOLUTION



DT18 UAV - DT-3Bands Sensor



Delair-Tech advised employing its DT18 Mapper drone package equipped with the fully-integrated, survey-grade DT-3Bands RGB camera. Equipped with this sensor, the DT18 airframe performed the routine 2D and 3D mapping of the power transmission line corridor. In order to model the power line itself and calculate the distance from the vegetation to the power line, Delair-Tech proposed using its proprietary image processing solution Delair Analytics and displayed this information in a report through its cloud based platform. The information was also integrated directly into EDF's GIS software.

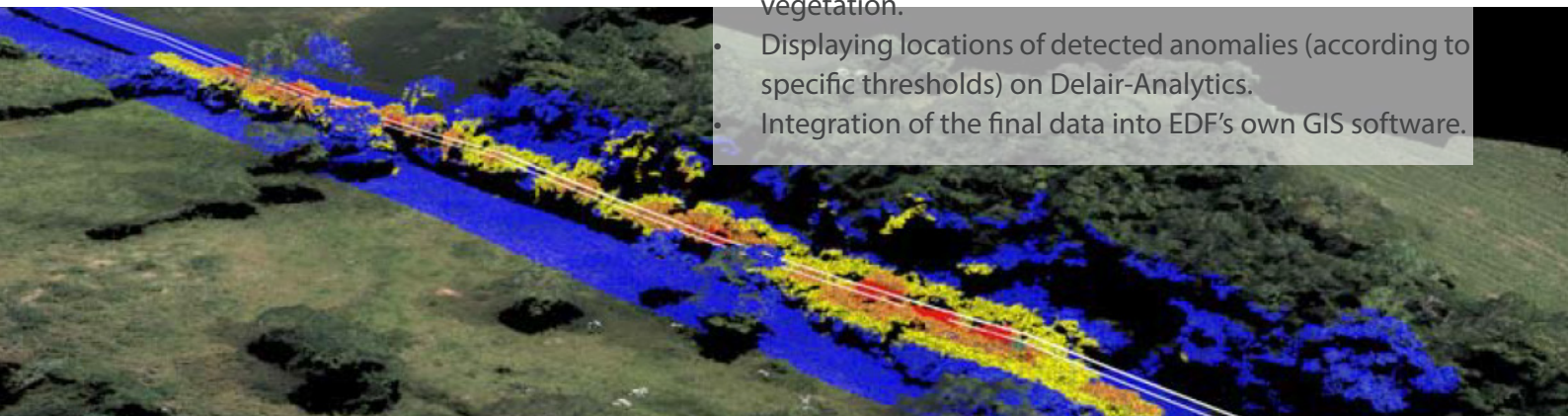
THE OPERATION

EDF commissioned Delair-Tech to inspect their entire power transmission line network in French Guiana. 150 km of network was flown with the DT-18 in 2 days. Wet weather and periods of light rain were no issue for the DT18 Mapper as it mapped the infrastructure and its vegetative surroundings.

DATA ANALYSIS

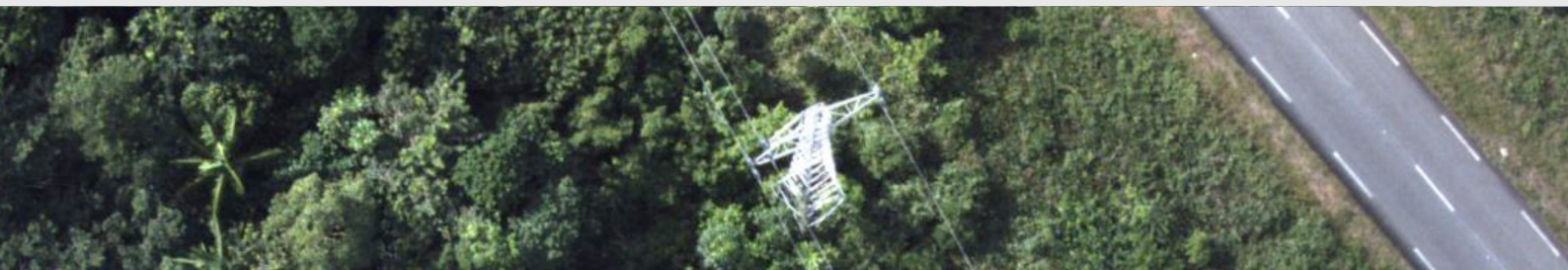
Putting the data to work. 40,000 images were captured by the UAV during the 4 flights in French Guiana. The images were analyzed by Delair-Tech's photogrammetry experts which use proprietary algorithms developed specifically for the needs of large, industrial end-users:

- Creating of the 2D orthophoto and the 3D vegetation model.
- Modeling the Power Line with data from EDF and integration of the model in the 3D point cloud of vegetation.
- Displaying locations of detected anomalies (according to specific thresholds) on Delair-Analytics.
- Integration of the final data into EDF's own GIS software.



DELIVERABLES

A final and ready to use report that includes the GPS coordinates of trees to be cut, identities of the transmission towers in the vicinity of the anomalies, and estimates on the quantity of vegetation to be cut was delivered to EDF. They could visualize the results on Delair-Analytics platform. The integration of the data into EDF's own GIS software was possible.



WHY DID THEY CHOOSE DELAIR-TECH

✈ **The endurance** of Delair-Tech's UAVs make this **economically possible**

🕒 **Delair-Tech UAVs** make large scale inspection possible

✓ **The results** helped EDF plan their vegetative maintenance program by introducing automation