



**delair-tech**  
AIRBORNE SENSING

USE CASE

# RIVERBANK MAPPING FOR FLOOD MONITORING

| FLOODING | MAPPING | ENVIRONMENTAL |

THE CLIENT  
FRENCH GOVT.



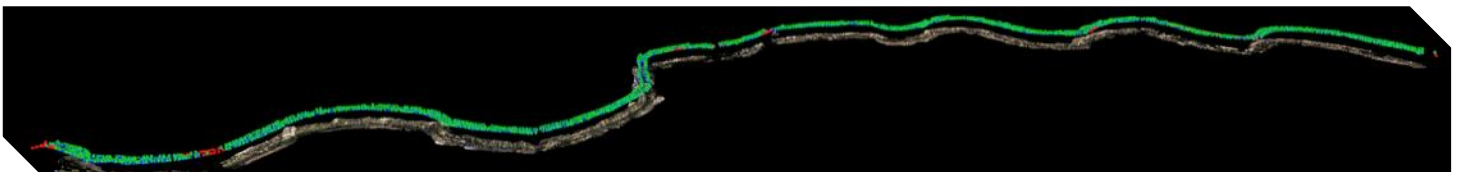
DDT-31 is a French Department of Territory Management. DDT stands for: *Direction Départementale des Territoires*, with the '31' referring to the Haute-Garonne department which is located in the Midi-Pyrénées region – the location of Toulouse.

Associated UAV packages:

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

THE NEED  
LONG-TERM STUDY

The primary purposes for this project were to identify the highest level of the Garonne river during floods (like after a climactic event) and to obtain historical data about each flood over the course of the long term. The secondary purpose was to analyze the riverbanks of the Garonne river in Toulouse, France after a flood and determine if fallen trees or other debris caused obstruction to the river and its banks.



To address the needs of DDT-31, Delair-Tech deployed the BVLOS-certified DT18 long range UAV system equipped with the DT-3Bands RGB sensor. The high endurance of the DT18 allows operators to cover long linear distances or large areas in a single flight – in this case, a 360 hectare section of the Garonne river. The DT18 flew along the Garonne river, out of sight of the operator, and collected over 15km of data.

THE SOLUTION



# RIVER BANK MAPPING FOR FLOOD MONITORING

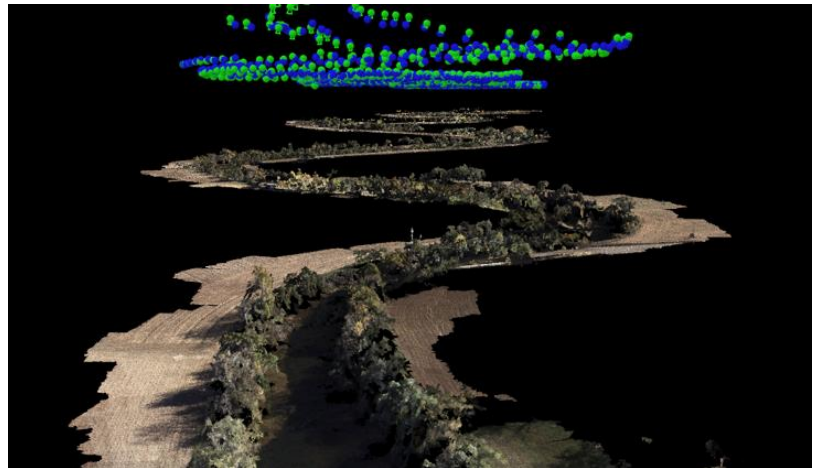
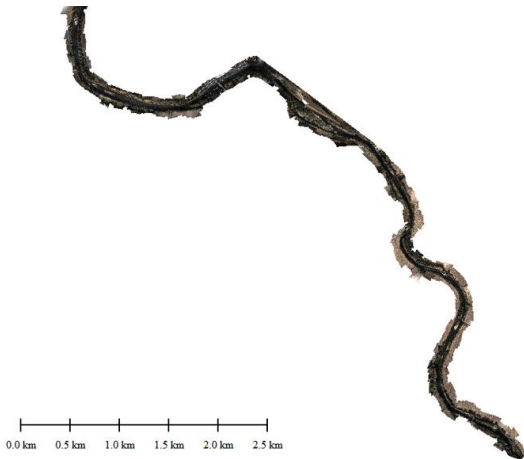
## THE OPERATION

In November 2014, the DT18 accomplished a 1 hour flight above the Garonne river and covered 15km of corridor in one hour. 1,992 images were acquired at 5MP resolution and an 80% longitudinal overlap. The GSD of this data set was 4.12 cm.



## DATA ANALYSIS

Putting the data to work. After the flight, the data was uploaded to the Delair-Analytics data center where 14 hours of image processing took place on the 1,992 images. This gave a total time from acquisition to report of under 24 hours (15 hours total; 1 hour of flight and 14 hours of processing) which is ideal when every minute counts during emergency situations.



## CONCLUSION

- ✓ DT18's endurance can be leveraged to collect data over long distances
- ✓ Delair-Analytics enables quick turnaround on reporting and processing
- ✓ The high resolution of the created map allowed the responders to clearly see fallen trees or other objects obstructing the river

