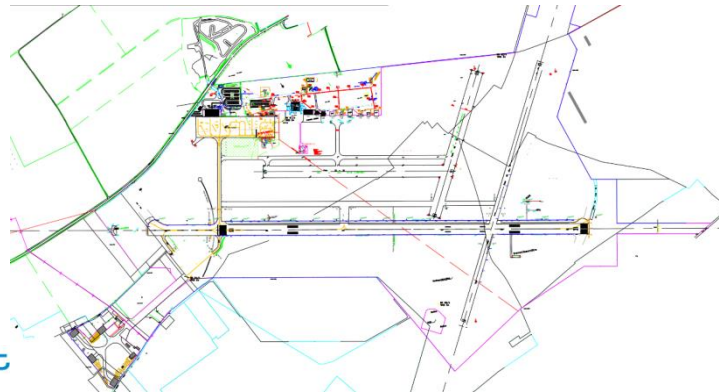


## Inspections of 3 types of critical infrastructures by drone

- Airport fences
- Medium-voltage power lines
- Penstocks



## 3 Field experimentations

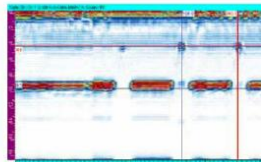
- With many other opportunities



a é r o p o r t

**CAEN**  
CARPIQUET

exemple de conduite forcée de conception rivetée (1907)



exemple de perte d'épaisseur localisée affectant les conduites forcées.

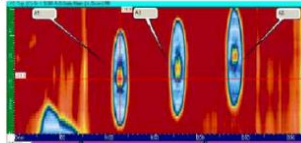


image ultrason OL0° de type C (en haut) et B (en bas) de cratères de corrosion Ø 20 mm et de profondeur 5 mm

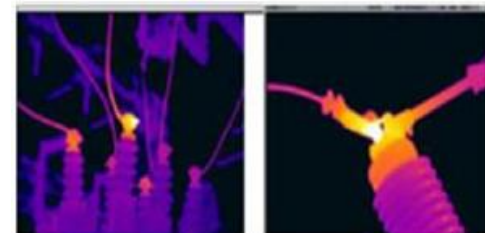


Site web



Contrôle des lignes par mission héliportée 2 opérateurs

Drone de vue des isolateurs verre (photo drone Alérion)



Exemple de cas critiques : connexions en tête d'isolateur défectueuses.

**ENEDIS**  
L'ELECTRICITE EN RESEAU



## ➤ Automated infrastructures anomalies detection



Conduite Forcée (ligne de rouille)



Clôture en grillage (trous)



Matériel électrique (isolateur cassé)

- Automatic flights beyond visual line of sight (BVLOS)
- Extended operational availability (> 200 days per year)
- EASA JARUS SORA based air and ground safety analysis and AMDEC based failures management
- French and European regulations
- Cyber-security (protection of wireless communications)

THALES



## Performance and features

<b>Take-off weight</b>	25 kgs
<b>Dimension</b>	Distance between motors : 1150 mm Height : 800 mm
<b>Power</b>	LiPo 12S 44 Ah
<b>Maximum thrust</b>	70 kgs
<b>Take-off maximum weight</b>	30 kgs
<b>Maximum thrust versus weight ratio</b>	2.8 at 0 meter altitude / 2.1 at 2500 meters altitude
<b>Range at 25km/h</b>	5.6kms (in 12 minutes)
<b>Maximum speed</b>	75 kms/h
<b>Hovering power</b>	4.2 kW
<b>Maximum power</b>	18.9 kW
<b>Emergency systems</b>	Parachute + engines cut
<b>Drone impact energy with emergency systems</b>	250 J
<b>Transportation</b>	1150 x 250 x 400 mm



## Main sensors

**Canon EOS**  
**IDS camera**  
**Lightware LIDAR**  
**IR Lock**  
**RTK GPS**



Site web