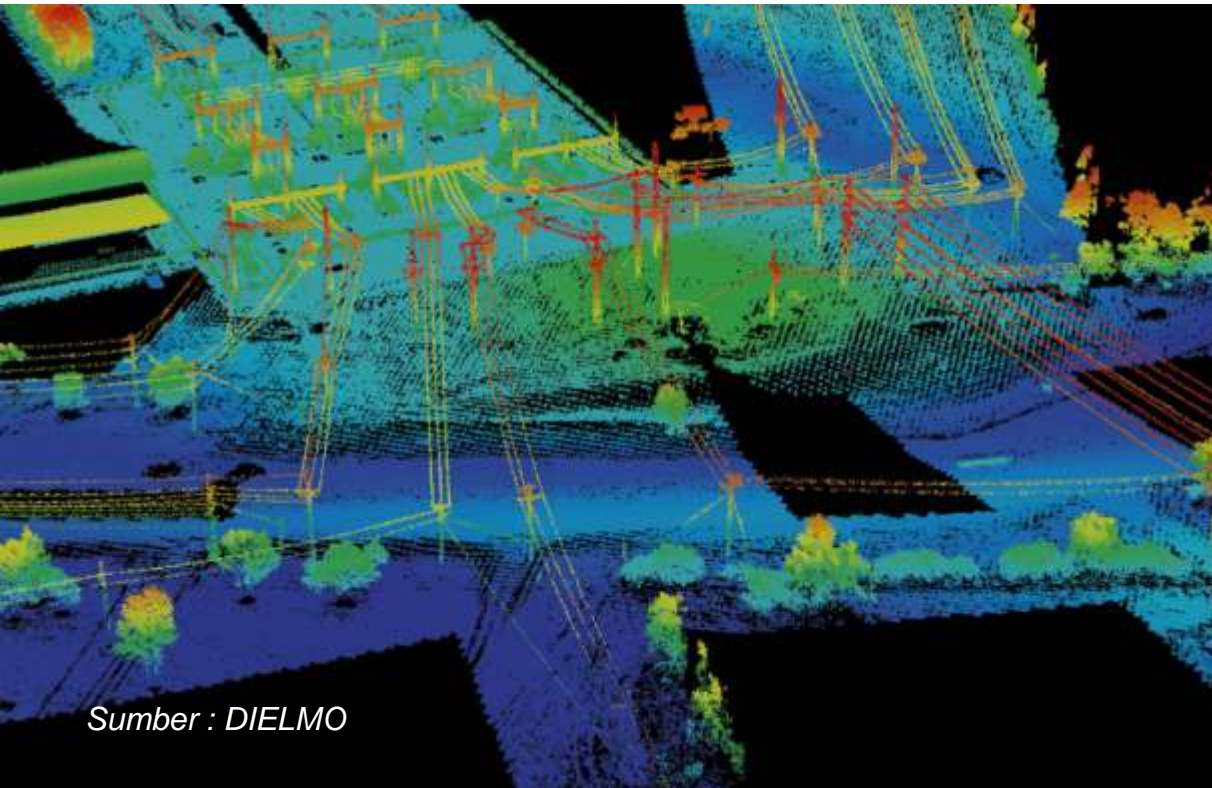


Ultralight, an alternative to the helicopter...

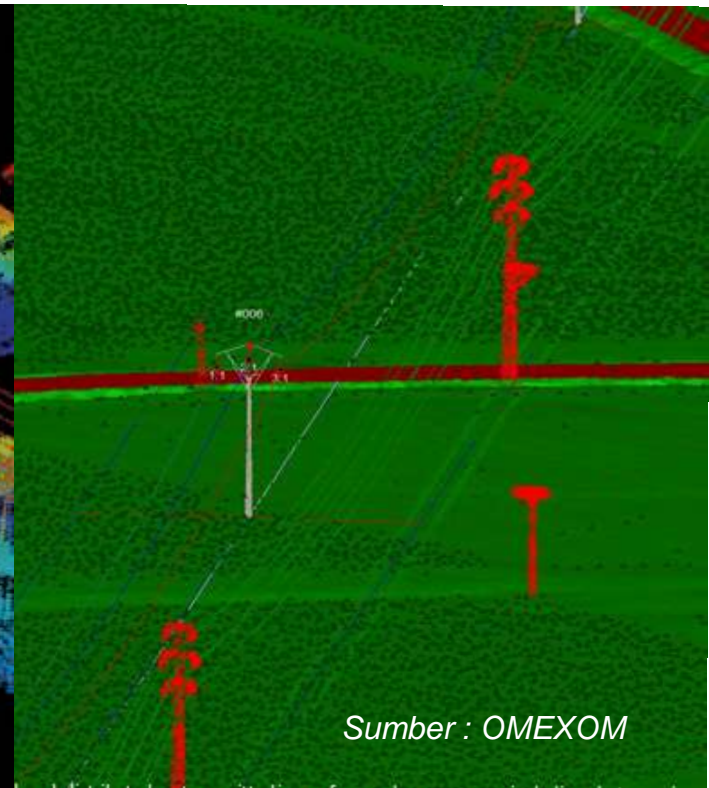
...For the powerlines Sector...



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Sumber : DIELMO



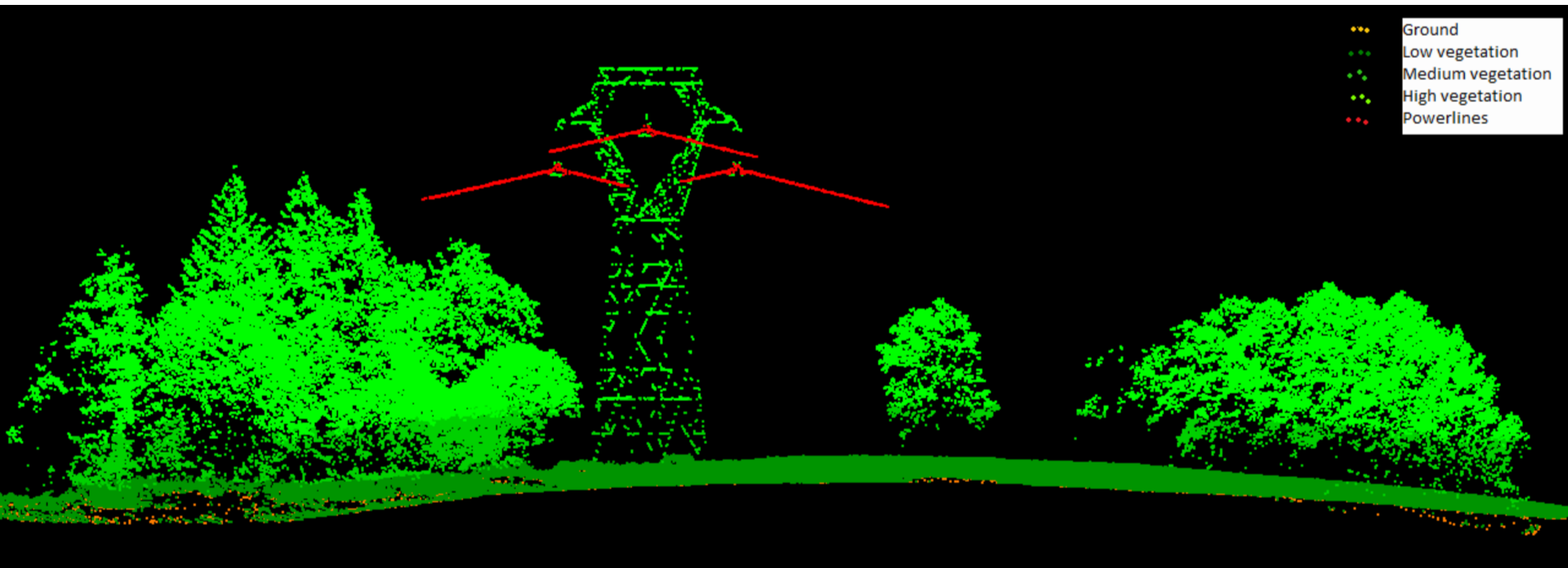
Sumber : OMEXOM

Context: RTE* for the production of a national database

* RTE is the manager of the public transmission of high and very high voltage electricity in France

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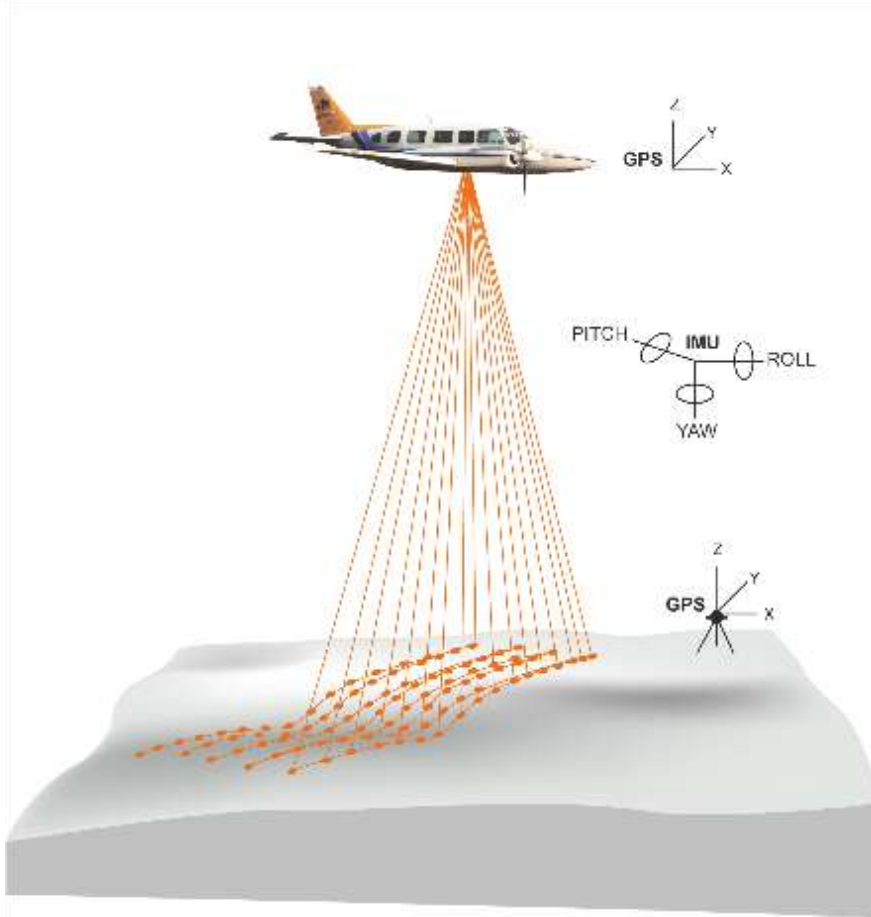




RTE Requirement for airborne acquisition:

- lidar survey (25pts/sqm minimum)
- Aerial photos
- Film of the flight
- Temperature (at beginning and end of each line)

Aircraft



➤ **Difficult to fly slowly for high density**

Expensive for high density in corridor projects

Helicopter



- **Slow flights allow high point density**
- **The costs**

Need to find a **NEW** solution?

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Ultralight SAVANNAH

Range: 450 NM

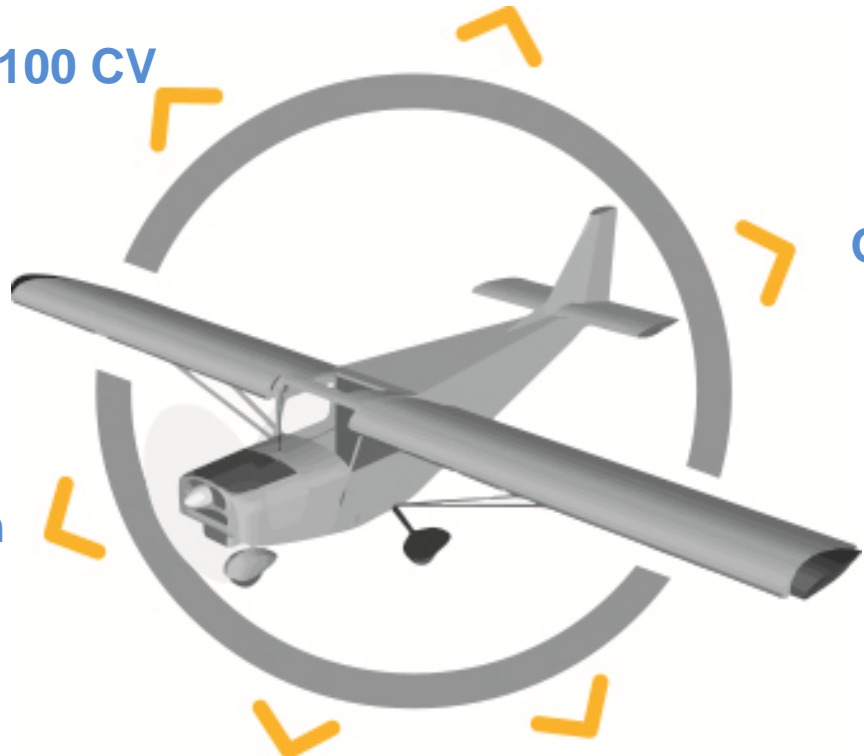
Rotax 100 CV

Online survey: 5h00

1 hatch

Height: FL120

Speed: 30-100 kts



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Ultralight



A real **WORK** of adaptation

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A CUSTOM MADE methodology

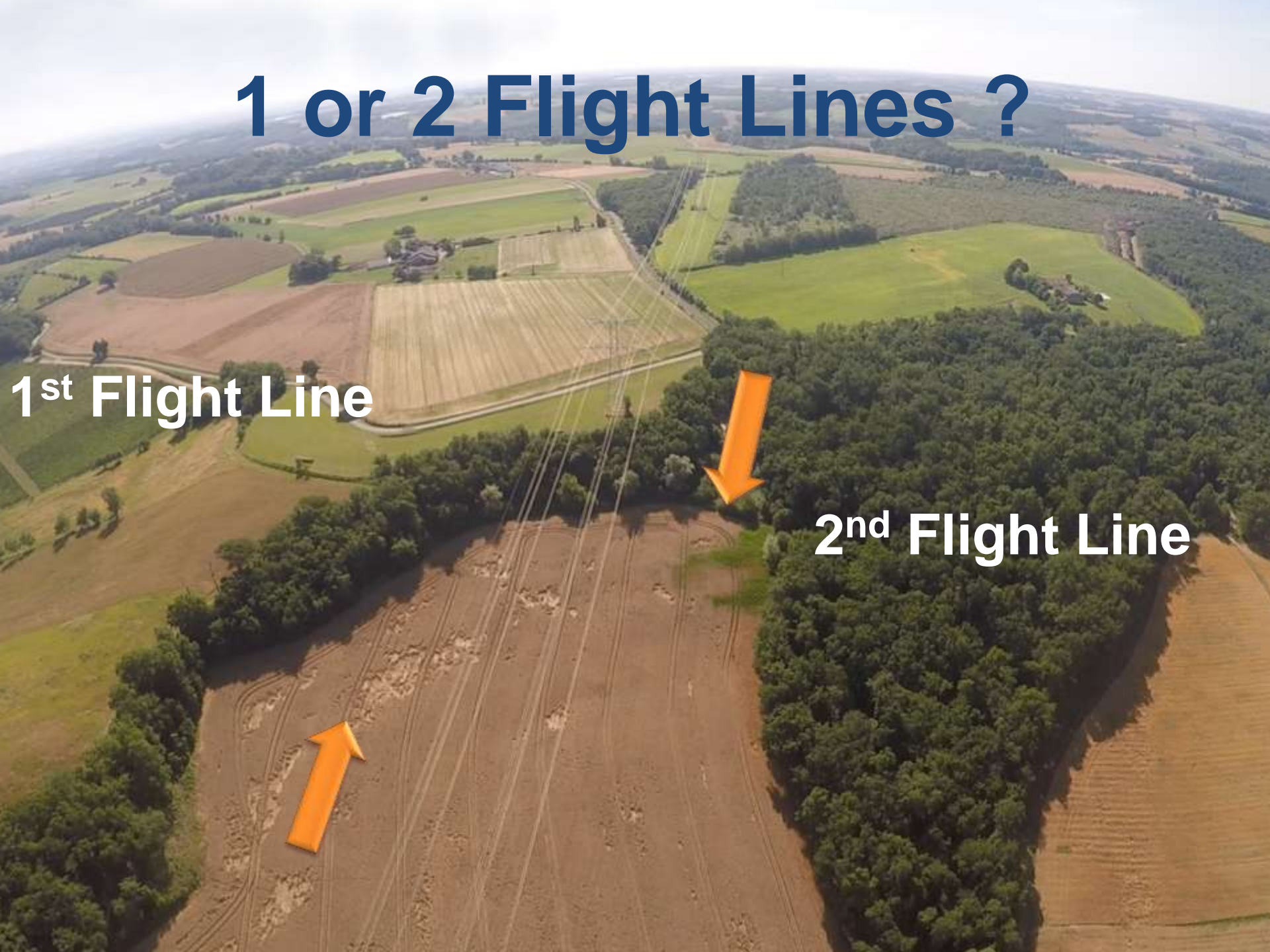
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1 or 2 Flight Lines ?

1st Flight Line

2nd Flight Line



2 Flight Lines

Inconvenients & Advantages

- A lot of data to process
- Different positions of cables
- A ultra High density : 50 pts/m²
- A lot of details on the pylons
- A lot of points on the cables,
No hided parts

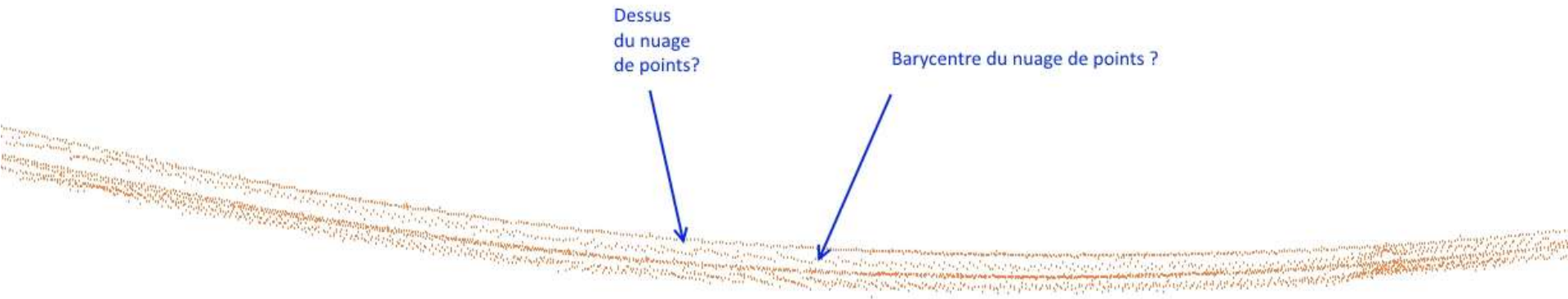
1 Flight Line

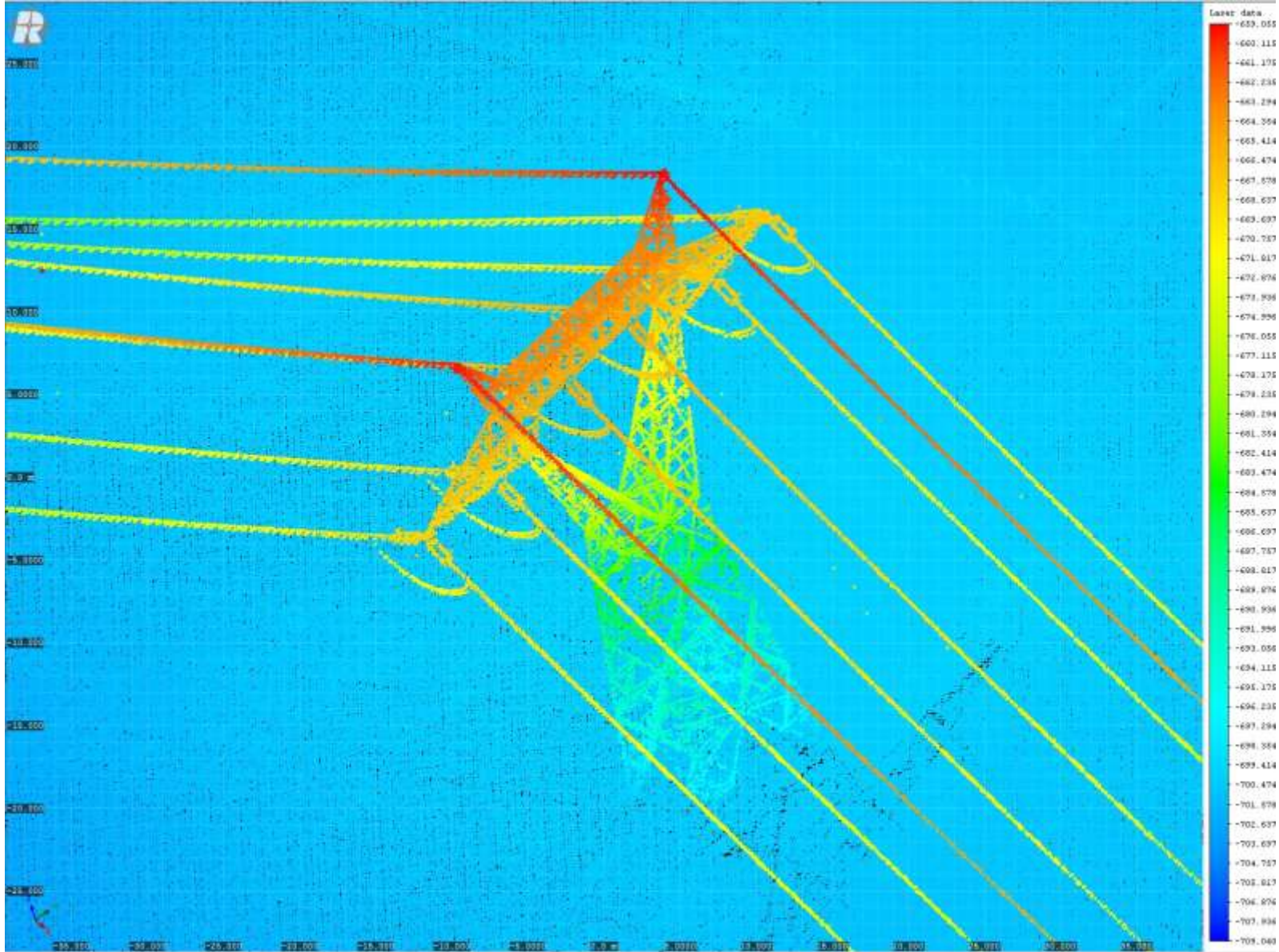
Inconvenients & Advantages

- A quantity of data more easy to manage
- Less flight time
- A high density : 30 pts/m²
- Risk of hided parts ?

Exemples of different positions of cables during a Lidar acquisition

- Dilatation / expansion of the cables can be due to :
- Variation of temperature between the two flights
- Power line under voltage or not.





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Conclusion

- **Constraint : Skillfull pilot (keep an eye on camera, lidar, GoPro cam, temperature... and pilotage)**
- **Evolution : toward a density of 35 pts/sqm ?**
- **Ultralight lidar survey can meet users expectation**
- **Improvement of the density leads to a better identification of equipments**
- **Very cost-effective methodology**

Thank you



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