DELAIR

Press kit 2019

Michael de Lagarde, Delair's CEO

"2018 has signaled a new period of growth and product line expansion for Delair. We have significantly strengthened our position as the leading provider of drone-based business intelligence globally. First with **the launch of our third-generation UAV, the Delair UX11, and thanks to corporate developments including a new funding and the acquisition of Airware,** a pioneering developer of innovative software analytics tools for drone-based data.

As it has become clear that data and software are the real end game in effective commercial drone use by enterprises, **we are proud to start 2019 with the launch Delair Aerial Intelligence, the industry's most comprehensive cloud-based platform for converting drone images into actionable business insights.**

Businesses demand not just innovative technology but enterprise-ready solutions that offer the scalability, reliability, and security they need, as well as the ability to integrate with other key business processes. Built on the foundation of six years of internal software development efforts and following the acquisition of Airware's software platform and development team in 2018, **Delair now offers the most scalable platform and the broadest portfolio of analytics to enable enterprises to implement a digital transformation of their assets** in order to harness the power of data collected by drones of any type.

On the hardware side, we'll continuously improve our solutions. Several factors are lining up to accelerate the use of commercial drones in all kinds of businesses, including the establishment of government regulations, technological improvements in UAVs, and economic pressures on companies to improve operational efficiencies. But the common challenge we see in the market is the need for an easy-to-use, cost-effective solution that produces actionable insights. Our latest drone platform, the Delair UX11, has been developed to address those requirements and break new ground in terms of what can be done with a drone, as well as who can operate it.

2019 will be an exciting year of growth of our activities, supporting our ambition to become the global leading provider of drone-based solutions !"

Table of contents.

1/ Delair at a glance.

- Founded in 2011, Delair has become one of the global leaders in commercial drone solutions for industrial applications
- Its drone-based solutions enable enterprises to digitize their physical assets through aerial data collection and artificial intelligence-based analytics that turn the collected data into valuable business insights.
- The company's offerings combine high performance, long range fixed-wing UAV hardware with sophisticated analytics technology available through a cloud-based platform, and operational services.
- Its solutions are used globally by customers in industries such as **Geospatial, Agriculture & Forestry, Power & Utilities, Security & Defense, Mines & Quarries, Oil & Gas, Railways & Roads as well as Emergency.**
- Delair has strengthened its position as a global leader through acquisitions of companies such as Gatewing, a former Trimble company, Eukréa Electromatique, and key assets from the company Airware/Redbird in October 2018.
- In September 2018, Delair received funding from Intel Capital, further extending an existing partnership with Intel, to accelerate the development and adoption of its data-driven software solutions and the Intel Insight® Platform.
- Founded by experts in the aerospace industry, the company today employs 180 people and is headquartered in Toulouse, France and has offices in Paris, Ghent, Los Angeles, Beijing, and Singapore. Its solutions are sold in more than 70 countries by a network of more than 100 resellers.

2/ Key figures & strategic developments.

Key figures

105
DISTRIBUTORS

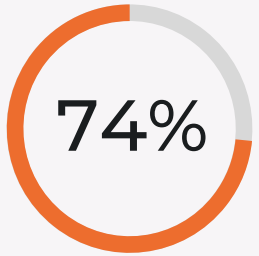
70
COUNTRIES

Global Presence

EMEA
Toulouse HQ (France)
Paris (France)
Pessac (France)
Ghent (Belgium)

Americas
Los Angeles (US)

APAC
Singapore
Beijing (China)



Activity outside Europe

X4 in two years

8 industries

- Surveying & Mapping
- Mines & Quarries
- Power & Utilities
- Agriculture & Forestry
- Construction
- Oil & Gas
- Transportation
- Security & Defense

Raised Capital

2013, Seed funding
$3.5M
€3M through Andromède and Parrot

2016, Series A
$15M
€12M through Andromède and Galia

2016, Merger-Acquisition
$10M
€8,5M

2018, Series B
Amount not disclosed
Through Intel Capital

2,525
DRONES DELIVERED

40,000
FLIGHTS

800,000
FLIGHT KILOMETERS

3 Million
IMAGES ANALYSED

Strategic developments

2011

CREATION OF DELAIR

Michael de Lagarde, Bastien Mancini, Benjamin Michel, and Benjamin Benharrosh create Delair

2013

SEED MONEY

Delair raised $3.5M through Andromède and Parrot

2016

SERIES A

Delair raises $15M through Andromède and Galia

2017

ACQUISITIONS

Takeover of Gatewing from American company Trimble, and of Bordeaux company Eukréa Electro-matique

2017

INTEL PARTNERSHIP

Signing of the strategic partnership with Intel and creation of Intel Insight from the Delair Analytics platform

2018

SERIES B

Intel Capital invests in Delair

2018

AQUISITION

Delair acquires key assets from drone solution developer Airware, including technology and a team of developers from construc-tion and mining specialist Redbird.

2019

LAUNCH OF Delair.ai

Industry's most powerful aerial intelligence cloud platform to unlock the value of drone data

3

Delair Solutions.

A COMPLETE WORKFLOW TO MANAGE DRONE DATA

Drones are enabling companies to more efficiently and effectively capture data. Delair allows enterprises to integrate this data with existing information and workflows to improve efficiency, productivity, and safety.

3.1

Delair.ai

DATA MANAGEMENT CLOUD PLATFORM

The brand new Delair platform delivers optimized analytics for specific industries and use cases in mining, quarries, construction, power and utilities, and agriculture, enabling more accuracy and precision to deliver bottom-line benefits to a wide range of businesses.

SOLUTIONS
TO TURN AERIAL DATA › BUSINESS INSIGHTS

Aerial data plays an important part in any digitization strategy. While capturing data is easier than ever with UAVs, the real challenge enterprises face is harnessing all of this data so that it is consumable, shareable, and actionable.

Delair Aerial Intelligence platform (Delair.ai) provides a solution to rapidly and repeatedly analyze comprehensive imagery of all of their sites. Our customers get the combined power of an enterprise-focused workflow and powerful industry-specific analytics, to help turn aerial data into actionable business insight.

1/ **Acquisition** › 2/ **Upload** › 3/ **Photogrammetry** › 4/ **Analytics** › 5/ **Business insights**

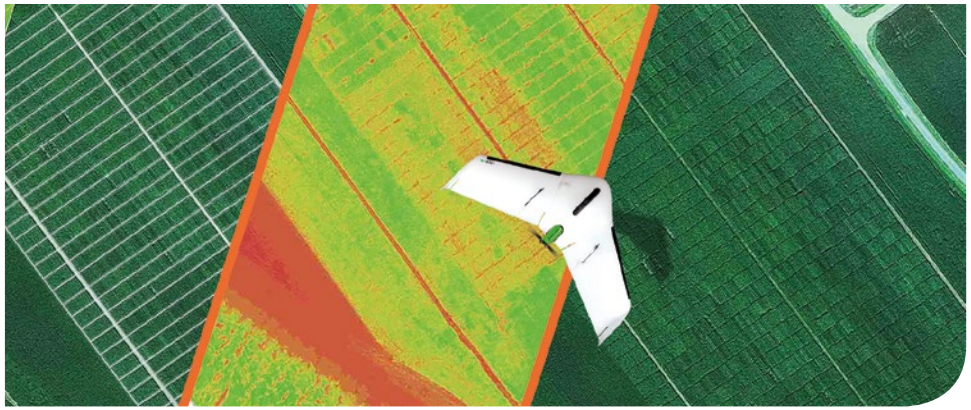
› Link to the platform landing page

Industry-optimized analytics **for Mines & Quarries**

The analytics for mines and quarries allow:

- **To get greater visibility on inventories** and help companies meet demand, plan production, reduce working capital, and more easily attain accounting goals. They save time with an automated inventory reporting toolset that eliminates the need to manually measure stockpiles by automatically identifying and measuring stockpiles.
- **To extract the most current geometry and conditions of haul roads** and give the insight necessary to improve worksite operational efficiency: look at pinch points where traffic converges, analyze grades that are steep and may be problematic for many vehicles, identify uneven, degraded surfaces that may cause unnecessary tire wear, and poor drainage that may result in pooling.
- **To ensure compliance with safety requirements,** avoid fines and minimize shutdowns.

Industry-optimized analytics **for Agriculture & Forestry**



Optimized with the Delair UX11 Ag, a new fixed-wing drone optimized for the agriculture industry, Delair.ai offers specific analytics to digitize and better analyze crops:

- **Crop mapping and visual scouting:** Field visualization tools such as annotable and shareable 2D and 3D models, orthomosaics, georeferenced and indexed maps, crop vigor, chlorophyll content, green biomass, etc.
- **Inventories of fields or micro-plots:** field boundaries, micro-plot vectorization, field rows, gap detection, plant counting, plant height and other plant characteristics.
- **Precision farming:** automation of drone-to-machine operations, faster and more targeted responses to weeds, diseases and pests.
- **Traceability of crops:** follow more precisely and demonstrate what is happening exactly in the field.

Artificial Intelligence on delair.ai

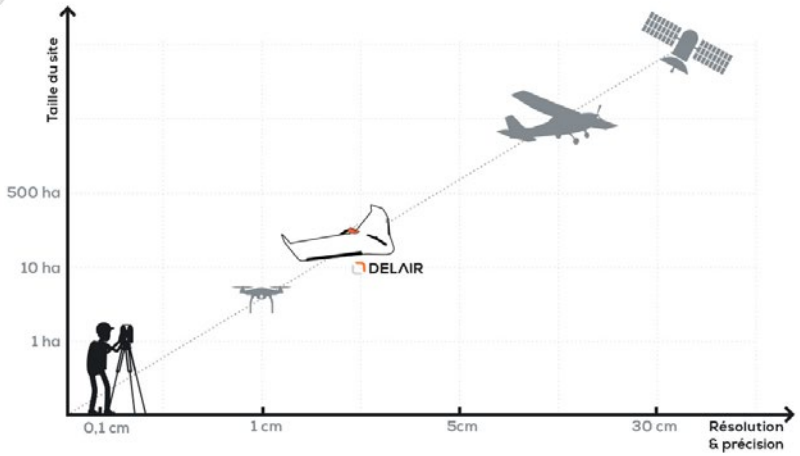
Since its creation in 2011, Delair has accumulated thousands of flights and produced tens of thousands of analytics. This carefully curated database has been used to train custom deep learning models, to automatically detect, count and classify objects or classes of objects.

The platform includes artificial intelligence features, eliminating hours of manual analysis on a large site map. Analytics automatically:

- **detect** classes of objects such as water, vegetation, vehicles,
- **count** others, such as cars, trees, livestock,
- **classify & analyze** stockpiles of all shapes, sizes, colors, and surface materials

3.2

Delair Drones.



A complete range for the industry

Delair UAS are last-generation fixed-wing drones, designed and built in Europe (France and Belgium). The autonomous aircrafts can be used for a variety of large-area imaging, mapping, monitoring and maintenance tasks, not previously practical, secure or even possible with other terrestrial or airborne approaches. They combine the productivity benefits of long-range/BVLOS (beyond-visual-line-of-sight) flight operations with highly accurate survey-grade mapping and centimeter-level data collection capabilities.

Delair drones offer an optimized user experience when they are combined with the Delair Aerial Intelligence platform.

A leading position in the global UAV market

The fixed-wing drone market is dominated by a few companies delivering high-end, high-ROI drone solutions, in which Delair has consolidated a pioneering and leading position since 2011.

The company is expecting its hardware activities to grow by 54% per year until 2021, thanks to its third-generation UX11 product line, a growing network of distributors in more than 70 countries, and a continuous R&D investment.

The Delair UX11,
Delair's third-generation drone.

Launched in 2018, the autonomous aircraft enables increased efficiency, accuracy and productivity to enterprises in how they collect and analyze data that is critical to their operations.

Designed for ease of use and lowest TCO (Total Cost of Ownership), the Delair UX11 combines a number of features and design innovations that make it ideally suited for productive operation quickly in a variety of conditions and flight requirements :

- Portable lightweight (1.4 kg) and modular hardware frame easy to assemble
- BTOL (bird-like take-off and landing) for steep-climb take offs and descents in confined areas
- Capable of covering 200 hectares (500 acres) in single one-hour flight
- Image quality and accuracy up to 1 cm of precision from a height of 400 feet
- On-boarding processing for real-time data quality monitoring and mission adjustments
- Controlled through either 2.4 GHz wireless communication or available 3G/4G cellular networks
- While delair.ai is compatible with any drone-based data, it offers even more efficiency when paired with the Delair UX11 high performance UAV

DELAIR
UX11

BENJAMIN MICHEL,
Co-founder and Chief Product Officer

"The Delair UX11 sets a new standard of efficiency, cost and quality in a long-range UAV platform. The drone itself is truly state-of-the-art in its design and construction, and it enables industry-leading performance and flight range, as well as streamlined maintenance, advantages that all reduce costs. The integrated processing capabilities are able to ensure image quality in real time and provide users with accurate results that shape critical operational decisions and strategies. And it's designed for flexible use in a variety of conditions and use models, further lowering TCO"

Link to the Delair UX11 press release

Link to the Delair UX11 website page

For Agriculture & Forestry: Delair UX11 AG

Commercially available since February 2019, the Delair UX11 Ag is part of the ***Delair Ag*** end-to-end solution for large-scale surveying and mapping in agriculture and forestry, and is optimized for the agriculture-specific analytics available on delair.ai.

The Delair UX11 Ag is well suited for a range of large-scale agriculture activities, including inventory control to optimize operations management and crop planning, increased traceability for sustainability, health monitoring of crops and extraction of key production metrics, and crop response assessment in field trials and research. It is designed specifically for the diverse and often challenging environmental conditions of large-scale farming environments.

- The full-featured drone includes sensing technologies and a multispectral camera for plant-level measuring, including bird level, biomass and chlorophyll.
- It supports a productivity-oriented workflow for long-range, multi-field and multi-flight operations.
- The precise automatic geolocation – PPK as you go – enables a perfect overlay of maps for temporal analysis or machine guidance.
- The drone enables real time review of data, providing even more efficiency for analyzing while in the field.
- With a flight time of up to 55 minutes, the Delair UAV typically covers up to 150 ha (370 ac) per flight (or up to 30 ha/25 ac in 10 minutes) at 150m (400 ft).

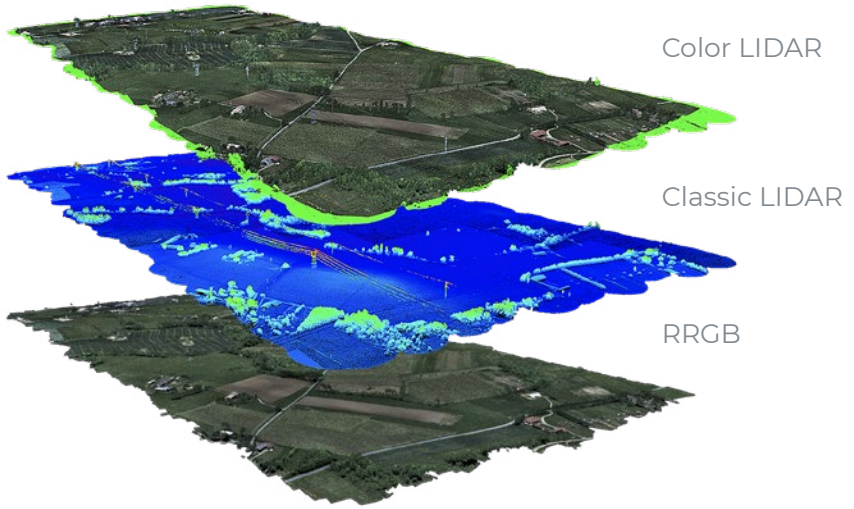
LÉNAÏC GRIGNARD,
Agriculture & Forestry Product Manager at Delair

"The Delair UX11 Ag combines the productivity benefits of long-range/BVLOS flight operations with highly accurate survey-grade mapping and plant data collection capabilities, while the Delair Aerial Intelligence platform enables a new level of precision agriculture and helps maximize the quality of crops and yields."

Link to the Delair UX11 Ag website page

DT26X LiDAR:
Precision for the most demanding use cases

The Delair DT26X LiDAR democratizes airborne LiDAR by enabling the technology to be used in a much wider range of projects. The solution hugely reduces costs and safety risks which makes the DT26X LiDAR a scalable alternative to manned aircraft for corridor and large-area mapping. The drone is well suited for uses such as environmental and land surveys, forestry monitoring, infrastructure surveillance, powerline and pipeline inspections, and road and rail construction.



- Delair DT26X LiDAR UAV is the industry's first long-range fixed wing drone to combine highly accurate Light Distance and Ranging (LiDAR) sensing capabilities with an integrated high resolution RGB (red, green, blue) camera.
- Its combined payload of a lightweight sensor and integrated camera allows the acquisition of LiDAR and photogrammetry data in a single flight, which drastically reduces cost and immediately provides an extremely detailed digital model of the inspected assets.
- Its long-range flying capabilities – allowing coverage of up to 2,400 square acres (10km^2), communication range of 30 kilometers (19 miles) and 100 minutes of flight time - improve the efficiency of aerial mapping operations over large areas
- Delair DT26X LiDAR is the first fixed wing UAV to incorporate the new RIEGL miniVUX-1DL LiDAR sensor, a specially designed device for the needs of UAV use.

Link to the Delair DT26X LiDAR video

Link to the Delair DT26X LiDAR press release

Lien PR

4/ Case studies.

Case Study

Power & Utilities

LANDSNET

Mapping of power line corridors in Iceland with BVLOS flights and LiDAR technology

Landsnet is the main electrical transmission system operator in Iceland. As part of a project to build a new power line corridor in the north of the island, between Akuyeri and Hosaland, Delair mapped and inspected more than 70 km of tundra. The objective: to study the existing infrastructure and optimize the layout of the new corridor to ensure the best possible transmission and stability of the system. Delair, in collaboration with the engineering company EFLA Consulting, flew its 2 most technologically advanced drones, the DT18 HD PKK and the DT26X LiDAR, to obtain the most accurate data possible by coupling RGB images and clouds of LiDAR points. This was the first professional drone flight carrying LiDAR technology in Iceland.

By coupling the LiDAR and photogrammetric data obtained on Delair's software platform, EFLA Consulting was able to achieve in record time:

- A very precise digital surface model (DSM) showing the topography along the proposed corridor for new lines,
- 3D models of conductors, insulators and towers of the new lines

70 km
of lines

10 DT18HD PPK
flights

2 DT26X LiDAR
flights

75 LiDAR pts
per m²

Case Study

Construction

EIFFAGE

Mapping of construction sites

JÉRÉMY MOREAU,
Manager of the topography department at Eiffage Infrastructure in French Guiana

"As the first ones on the work site, we collect the necessary data to design the construction operations' plans. Constraints from the terrain, modelling of surface water flows, positioning of the structural components, are some of examples that explain why our job requires theability to react rapidly and efficiently."

In French Guiana, the rainy season— short season, then large season—lasts almost eight months. Precipitation deteriorates quarries, tracks, and construction sites, and landslides damage construction worksites. Eiffage Infrastructure's local subsidiary—specialised in roads, sanitation, and civil engineering— acquired a Delair DT18 HD PPK UAV to:

1/ Obtain regularly accurate and reliable photographs of the progress of its work sites, particularly in the critical earthworks phase

2/ Analyse the condition of the quarries and tracks to identify those in bad conditions that might slow down or damage the machines

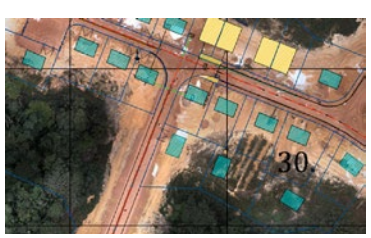
3/ Introduce a high degree of precision and ensure the capacity to respond rapidly and efficiently at all locations

Far from replacing land surveyors, the objective of using a UAV is to cut down the time and cost of the usual topographic data collection, along with the benefits of increased data reliability and accuracy.

- **Orthophotos:** the orthophotos produce a 2D map with spatial resolution up to 2 cm/pixel and centimetre-level precision thanks to the UAV's on-board post-processing kinematic (PPK) system. The orthomosaic map is then integrated into the geographic information systems (GIS) to draw up the layout plan for the structural components. After the first machines have got to work on the site, the orthomosaic map makes it possible to check if the work complies with the project plan.

- **3D digital surface models:** these can be used to obtain elevation profiles and cross-sections. They also allow volume calculations to measure slopes to manoeuvre construction machines, calculate the volumes of earth to be filled in or excavated, or measure the quantity of material stored or to be move.

The 3D models will then be shared on a web platform and can be used by all those involved in a project. "*These days, data analysis and the capability to share this information are strategic factors for winning a project,*" said Jérémy Moreau.



Case Study

Surveillance

Regular & emergency surveillance of railways

Drawing on company expertise, Delair has integrated its drones into civil security and surveillance operations: rescue operations and fire risk prevention, natural disaster management, infrastructure and industrial site monitoring.

Designed and built in France, the Delair DT26X Surveillance is one of the most technologically advanced models in the range. It is especially suitable for remote or night surveillance missions, thanks to its X10 optical zoom and infrared sensor. Equipped with an onboard stabilization system, it is also equipped with a human reconnaissance system (at more than 1.5 km away), day and night.
Proven in the most extreme conditions (desert, rocks, mountains, tropical forest, snow), able to land on any type of terrain, it is equipped with a resistant protection for the sensors.

The SNCF has been equipped with the Delair DT26X Surveillance to inspect its network of more than 30,000 km of tracks, on a daily basis and in emergency situations: encroachment of vegetation, acts of vandalism, intrusions on the track, railway accidents.

More economical than helicopter flight, less dangerous and faster than sending technicians to survey the track, the drone is placed naturally in the chain of surveillance operations, in tandem with other tools.

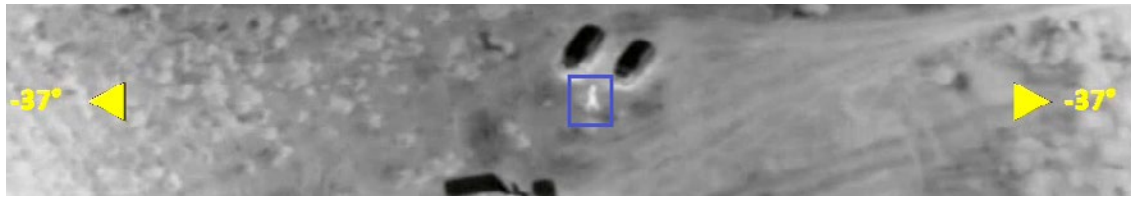
Equipped with an X10 optical zoom and an infrared sensor, the DT26X Surveillance has been used day and night by SNCF teams. In liaison with law enforcement, these operations have enabled the SNCF to significantly reduce the direct and indirect costs related to vandalism on the tracks.

30 km
Transects

17,000
km of flights

330
flight hours

30,000
km of rail network



Case Study

Agriculture and Forestry

From drone to plate: precision farming & traceability of crops

The SIAT group manages 42,000 hectares of oil palm plantations and 22,000 hectares of rubber tree plantations in Africa and Asia.
For the past 5 years, the Group has been involved in a process of sustainable development and certification of its palm oil (RSPO - Round-table on Sustainable Palm Oil) and natural rubber production activities.

The company has ambitious stated goals in terms of yields and production quality. In order to carry out a complete diagnosis of its plantations, while reducing the cost of its operations, SIAT acquired 2 Delair fixed-wing drones.
The DT18 AG is a fixed-wing drone specially designed to aid agricultural decision- making. It is equipped with a RedEdge multi spectral sensor, able to analyze the vigor and the health of plants. The DT18 was the world's first fixed-wing drone certified for operations out-of-sight of the pilot. In fact it can fly 10 km beyond the pilot, with an autonomy of up to 120 minutes, and is therefore particularly suitable for mapping large areas.

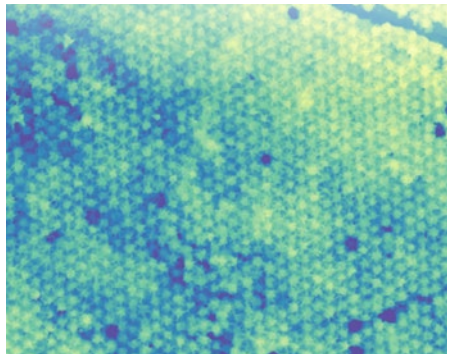
25,000
Hectares

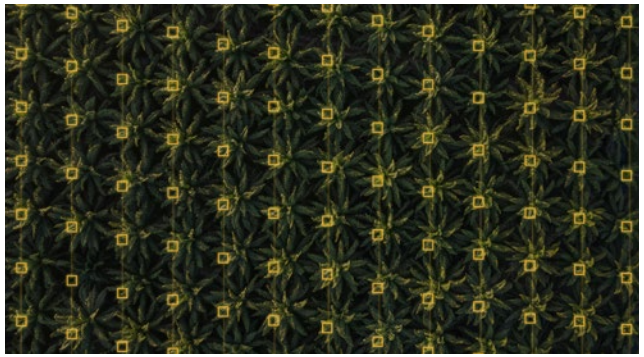
2 DT18 AG
drones

> 10km
communication

ARNAUD LEIDGENS,
Head of drone activities at SIAT:

"With 2 drone flights per day, we analyzed 1400 ha per day. Only 50 days of flight are required to analyze a total of 75,000 ha. After only 6 months of use, we halved our operational costs and noted a first return on investment (ROI). "
"Moreover, the resolution of the images and the flexibility of the drone solution make it more interesting than traditional aerial imaging solutions. "





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AERIAL INTELLIGENCE

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