DELAIR

Press kit 2020

Michael de Lagarde, Delair's CEO

Companies have never generated so much data than today, but only 1% of all this data is actually analyzed. This number is set to grow substantially over the next couple of years, thanks to the democratization of cloud computing, big data and AI analytics. The global data analytics market is set to be worth $275B in 2023 and from that, $86B will be visual and geospatial data*. The coming years will create a gap between companies who understand and adopt these new technologies, and those that fail to become data-driven.

Thanks to strategic alliances on the hardware side and to the continuous optimization of the delair.ai cloud platform, Delair is consolidating its position of a leading provider of end-to-end visual data management solutions for enterprises. Through a large range of data-capture solutions - commercial drones and sensors - and an enterprise-grade platform based on computer vision, cloud computing, and AI, we are increasing our ability to serve the needs of key sectors that are more and more relying on visual data to drive their businesses. This includes construction, transportation and infrastructure, utilities, mining and agriculture.

Delair's customers now have access to a one-stop shop and optimal freedom of options in utilizing visual data management solutions to improve their operation efficiency and smoothly go through their digital journey.

2020 will be an exciting year of growth of our activities, supported by our customers and a large ecosystem of industry and technology partners.

*Source: MarketsandMarkets report Oct. 2019

Table
of contents.

1/

Delair
at a glance.

- Founded in 2011, Delair has become one of the global leaders in end-to-end, visual intelligence solutions for industrial applications.

- Its visual data management solutions enable enterprises to capture, manage and analyze their assets and turn the collected data into valuable business insights.

- The company's offerings combine high performance UAV hardware with delair.ai, the industry's most robust platform to power your entire visual intelligence workflow, from data management to advanced analytics.

- Its solutions are sold in over 70 countries with a network of more than 100 resellers in industries such as mining, construction, agriculture, oil and gas, utilities, transportation and safety.

- Delair has strengthened its position as a global leader through strategic acquisitions (Gatewing, Airware/Redbird), and a strategic investment by Intel Corporation.

- Founded in 2011 by experts in the aerospace industry, the company employs 170 people and has offices in Toulouse, Paris, Los Angeles and Singapore.

2 /

Global footprint & strategic developments.

A global footprint.

Global Presence

+100 DISTRIBUTORS

75 COUNTRIES

Global Tier 1 and Tier 2 support & Training

Local service centers on all continents

Worldwide distribution & support offices

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

Americas
Los Angeles (US)

APAC
Singapore

Open Ecosystem

Data capture experts

DJI   DELAIR DRONES

Industry leaders

esri   Trimble

JOHN DEERE   DS GEOVIA

Technology partners

PIX4D   Agisoft   SAP

Industry Leader

Certified **industry leader**

First to BVLOS

+10 YEARS

of drone manufacturing and data analysis

Strategic developments

2008

2011

2012

2013

2013

2016

2017

2018

2018

2019

FIRST COMMERCIAL DRONE
Release of the X100 by Gatewing

WORLD'S FIRST BVLOS UAV
Certification of the Delair DT 18

DATA ANALYTICS PLATFORM
Data storage & AI software

INTEL PARTNERSHIP
Channel partnership with Intel

AIRWARE / REDBIRD
Acquisition of key assets from Airware, including construction and mining specialist Redbird

CREATION OF DELAIR

SEED MONEY
Delair raises $3.5M through Andromède and Parrot

ACQUISITIONS
Acquisition of Gatewing (from American company Trimble) and French company Eukréa Electromatique

SERIE B
Intel Capital invests in Delair

LAUNCH OF delair.ai
Industry's most powerful aerial intelligence cloud platform to unlock the value of GIS/Visual data

SERIES A
Delair raises $15M through Andromède and Galia

3/

Delair Solutions.

FROM VISUAL DATA TO BUSINESS INTELLIGENCE

Visual data management solutions enable enterprises to integrate this new source of intelligence within their existing workflows in order to take better decisions and improve efficiency, productivity, and safety.

Data Capture Solutions.

Fixed-wing
Delair manufactured drones

DELAIR
DT 26

DELAIR
UX11

Multi-rotor
Partner drone solutions

DJI
Phantom P4P

DJI
Mavic

RGB - Multispectal - LiDAR - Real-time video - Mobile app

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

Delair UAS include last-generation fixed-wing drones designed and manufactured in France, and complementary multi-rotor

systems provided by partners such as DJI, Quantum Systems or Wingtra.

The drones are 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.

Delair's fixed wing drones 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. Our systems can be seamlessly integrated with multiple data sources such as satelittes, IoT sensors, smartphones.

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.

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."

- 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).

Link to the Delair UX11 Ag website page
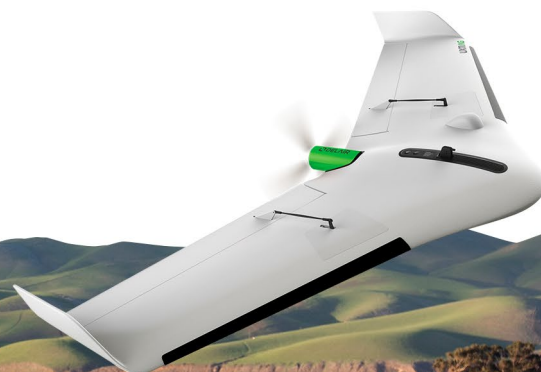
DT26X LiDAR:
Precision for the most demanding use cases

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.

Color LIDAR

Classic LIDAR

RRGB
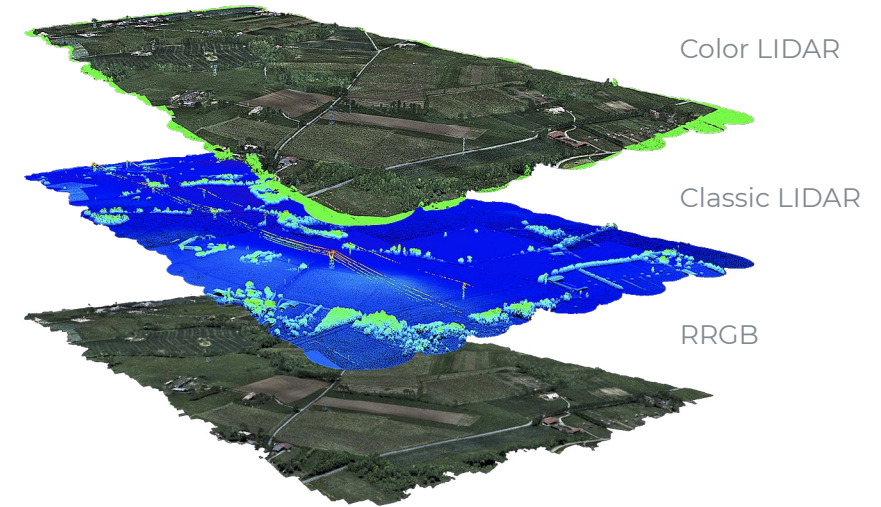
- Delair DT26X LiDAR UAV is the industry's first long-range fixed wing drone to combine highly accurate Light Distance and Ranging (LiDAR) sensing capabilities with an integrated high resolution RGB (red, green, blue) camera.

- 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

Delair.ai
VISUAL DATA MANAGEMENT IN THE CLOUD

delair.ai is an enterprise-grade platform built for visual data management in the Cloud. The platform delivers optimized analytics for specific industries and use cases in construction, transportation and infrastructure, utilities, mines and aggregates, agriculture and security, enabling more accuracy and precision to deliver bottom-line benefits to a wide range of businesses.

The platform can be sold as a SaaS (Software-as-a-Service) or as a PaaS (Platform-as-a-Service) solution, depending on the customers' needs.

SOLUTIONS
TO TURN VISUAL DATA 〉 BUSINESS INSIGHTS

Visual data plays an important part in any digital transformation strategy. While capturing data is easier than ever with drones, satellites, smartphones, and IoT sensors, the real challenge enterprises face is harnessing all of this data so that it is consumable, shareable, and actionable.

The delair.ai platform provides a solution to rapidly and repeatedly analyze comprehensive imagery of infrastructure to help improve asset reliability, manage projects and lower operating costs. Our customers get the combined power of an enterprise-focused workflow and powerful industry-specific analytics, to help turn visual and geospatial data into actionable business insights.

1/ Capture   **2/ Manage**   **3/ Analyze**

〉 Link to the platform landing page

Industry-optimized analytics
## **for Mines, Aggregates & Construction**

From digital twins of a mine, a quarry or a construction site, specific analytics on delair.ai help improve work site management and operational efficiciency :

- **Monitor production and efficiency:** Visualize inventory and export reports. Measure reserve consumption and mining progress. Analyze haul road conditions to optimize fleet fuel consumption and traffic flow. Plan blasting and track changes over time.

- **Help ensure safety and compliance:** Detect non-compliant safety blocks, berms, and highwalls. View impact areas. Conduct safety reviews more comprehensively and frequently to ensure safe operating conditions.

- **Collaborate easily accross sites and teams:** Scale across organizations and operations of any size. Cloud-based application allows universal access by anyone, anytime, anywhere. Annotate, comment and share with all your collaborators.

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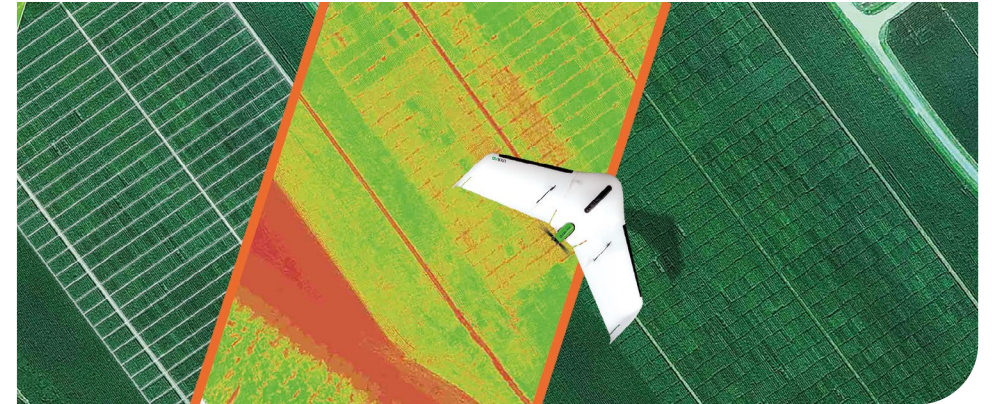
Optimized with the Delair UX11 Ag, a new fixed-wing drone optimized for the agriculture industry, Delair.ai offers specific analytics to digitize and better analyze crops:

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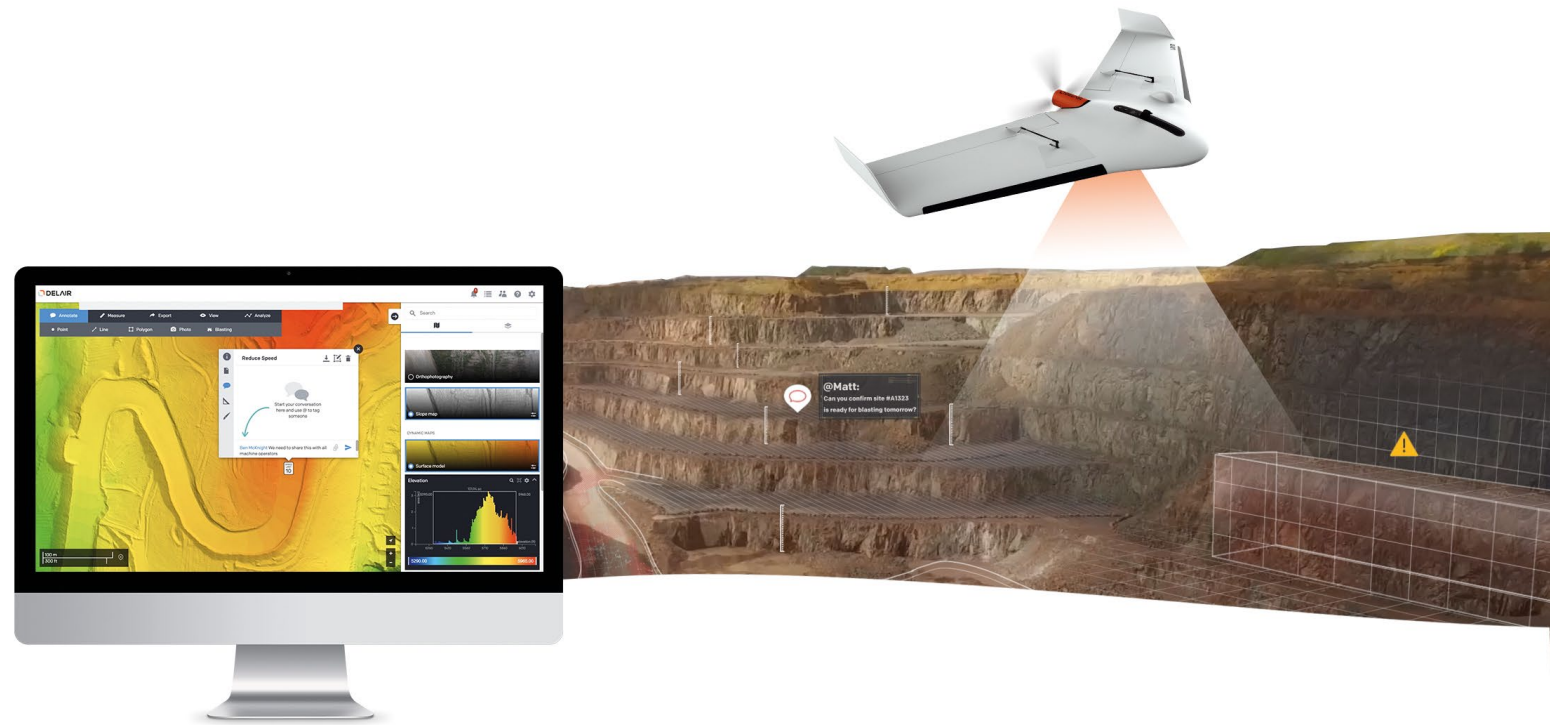
Since its creation in 2011, Delair has accumulated thousands of flights and produced tens of thousands of analytics. This carefully curated database has been used to train custom deep learning models, to automatically detect, count and classify objects or classes of objects.

delair.ai includes AI features to automate visual analysis at scale. From large sets of visual data, 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

4/ Case studies
& customer references.

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

Construction

EIFFAGE

Mapping of construction sites

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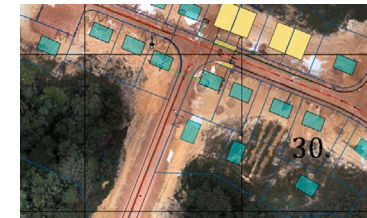
The 3D models will then be shared on a web platform and can be used by all those involved in a project. "*These days, data analysis and the capability to share this information are strategic factors for winning a project,*" said Jérémy Moreau.

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."

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.
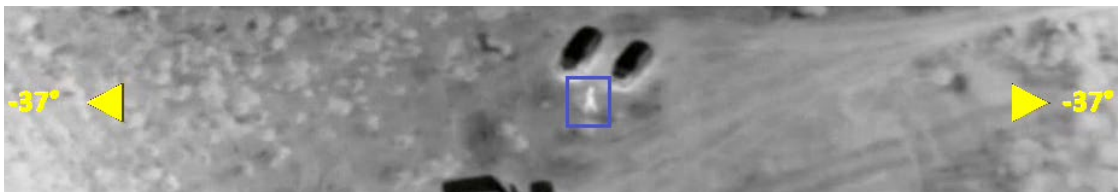
Designed and built in France, the Delair DT26X Surveillance is one of the most technologically advanced models in the range. It is especially suitable for remote or night surveillance missions, thanks to its X10 optical zoom and infrared sensor. Equipped with an on-board stabilization system, it is also 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	17,000	330	30,000
Transects	km of flights	flight hours	km of rail network

-37° -37°

Agriculture and Forestry

Siat Group

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.

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). "
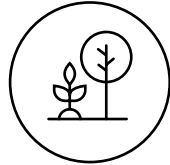"Moreover, the resolution of the images and the flexibility of the drone solution make it more interesting than traditional aerial imaging solutions. "
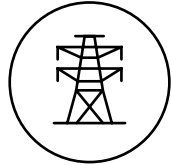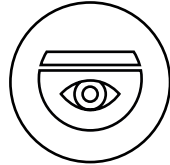
25,000
Hectares

2 DT18 AG
drones

> 10km
communication
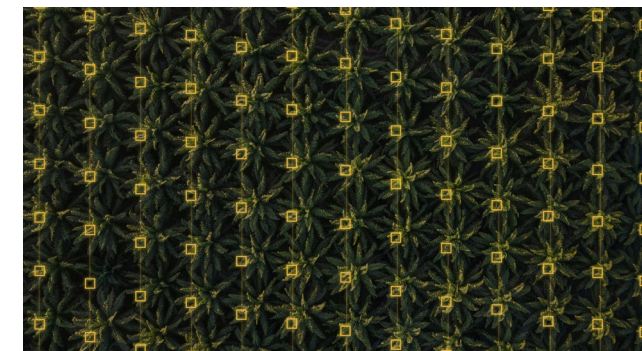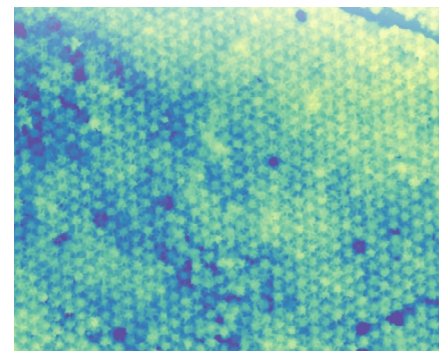
Customer references.

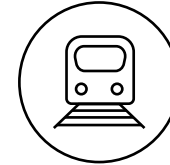| Surveying & Mapping	Agriculture & Forestry	Power & Utilities	Security & Defense	Mines & Aggregates	Oli & Gas	Transportation	Construction
AKTOR member of ELLAKTOR Group	SGS	PSE PUGET SOUND ENERGY	ARMÉE DE L'AIR	geocom	TRAPIL	INFRABEL Right On Track	SITECH
DUBAI MUNICIPALITY	biogemma	SWN Southwestern Energy	DGA	FSD	ENGIE	SNCF	EIFFAGE
GIS4C	syngenta			RioTinto	Total	BOLLORÉ LOGISTICS	VINCI
GEOFIT EXPERT	MICHELIN	AIRBUS AERIAL	eca ROBOTICS	CITIC PACIFIC MINING		VINCI	CATERPILLAR
MITTA MEASURING THE WORLD	Dole	DUKE ENERGY	AESA	TERREAL	CGG Passion for Geoscience	VINCI	
Ministry of Environmental Protection The People's Republic of China	MONSANTO	VEOLIA	pgm energy for life	RPS	TGN TRANSPORTADORA DE GAS DEL NORTE S.A.	TUC RAIL BELGIAN RAIL ENGINEERING	HENSEL PHELPS Plan. Build. Manage.
		ENEDIS					
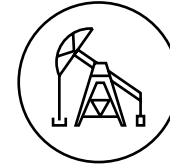
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AERIAL INTELLIGENCE

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