A New Era for Aerospace Business

Meeting of Big Data & Aerospace

Autonomous control allowing versatile flight plan

Flying in the stratosphere above commercial airspaces and bad weather

Certified aircraft with electrical propulsion

Structural optimization (wingspan around 40m)

Advanced Solar Panels for perpetual flight

Advanced energy storage to fly during night

STRATOS SOLUTION

STRATOS SOLUTION GENESIS
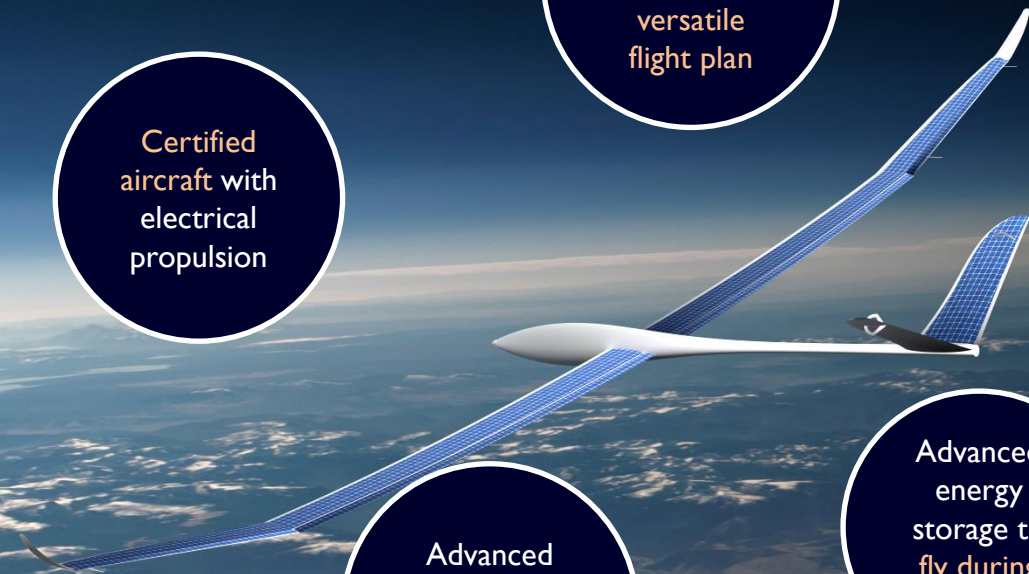
2018

HAPS Concept Development

Earth Observation satellites are powerful tools, but don't comply to all market needs, specially regarding flexibility, reactivity and real-time delivery

SUNRiSE Project is launch to develop a stratospheric demonstrator

2019

Earth Observation Data Management & Airborne Operations

Customers and end-users don't want to operate the platform, they are just interested by the final information

Airborne data acquisition and processing technologies

2020

Easy and flexible Airborne Data Acquisition system

Quick commercial deployment is mandatory for start-up development, and data management can be easily deployed on different aerial vectors

SONACA 200 dedicated to Earth Observation mission

2021

Innovative Data Management Platform

Aerial platform is not the only key point, and data processing technologies are moving fast, requiring a high level of flexibility and adaptability

Modular data management architecture and technologies

Next

HAPS Final Platform

Future HAPS aerial platform will be driven by disruptive technologies and specific challenge, requiring strong partnerships and collaborations

Technical specification for the future HAPS system

STRATOS SOLUTION

HIGH FLEXIBILITY MISSIONS

Flight at high altitude to guarantee **ALL-WEATHER OPERATIONS** and to ensure continuous and uninterrupted service

Versatile flight plan for **DIFFERENT TYPES OF MISSION** such like scanning, surveillance or target tracking

Infinite endurance for specific missions requiring **LONG-TERM ON-SITE PRESENCE, REAL TIME INFORMATION** or **HIGH REVISIT FREQUENCY**

High flexibility in the choice of payloads and opportunity to integrate several **DIFFERENT SENSORS ON THE SAME MISSION**

Telecommunications

Surveillance & Intelligence

Crisis Management

Maritime Surveillance

Border Surveillance

Security

Search & Rescue

Military Applications

TECHNOLOGICAL ROADMAP TO MITIGATE LEGAL/TECHNO/MARKET RISKS

STRATOS
SOLUTION

2018
EXISTING MANNED AIRPLANE

2022
HIGH ALTITUDE DAILY DEMONSTRATOR

2028
HAPS MONTHLY OPERATION

1

2

3

Access to market

Legal/Technical Mitigation

Technological Mitigation
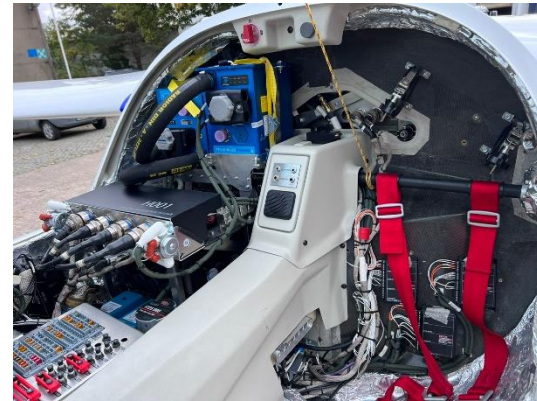
End-to-end Earth Observation solutions

Stratospheric Flying Laboratory

Satellite look-like services

This demonstrator is under manufacturing and is now into the test phase

- It will be operated in a segregated area as an experimental aircraft
- Design already took into account a high level of redundancy on critical systems
- Applied processes are quite similar to aeronautic standards

We are interested in collaborations aimed at testing solutions and applications related to very high-altitude flight

… to prepare the future

Developing innovative and disruptive airborne Earth Observation solutions …

END-TO-END VALUE PROPOSITION

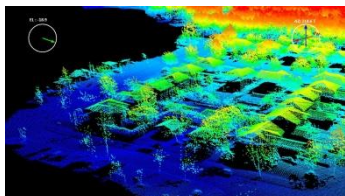## Full Operation of ASP15/S201 aircrafts

Certified aircraft developed for Earth Observation missions and **already available**

Complete operation with **limited workload for customer**

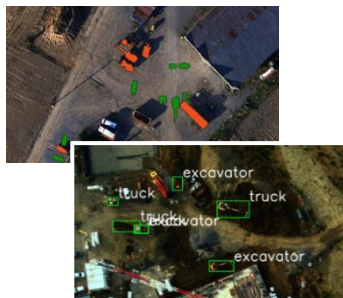High flexibility and reactivity to **answer to specific needs** as quick as possible

LIDAR & RGB Acquisition

Performant LIDAR (32pts/m²) to address change detection and **protect security & safety requirements**

High resolution RGB pictures (2cm/pixel) to cover 2D/3D mapping and photogrammetry

Automatic post-processing

Change detection process in order to **ensure threat detection** and **improve temporal follow-up**

Multiple box Artificial Intelligence technology used to **identify and characterize the objects/events**

Formatted reporting

Directly integrated in **Customer Management System**

Possible Data fusion with customer operational & administrative information

Doubt removal and post analysis capabilities

Temporal evolution for **situational analysis**

Reports provided day after (maybe less) and near real-time in the future

Our Value Proposition

End-to-end airborne solutions with limited workload for customer

High flexibility to comply with customers and end users needs

Improved Situational Awareness, including change detection and time evolution

Full integration in customer's operational & management systems

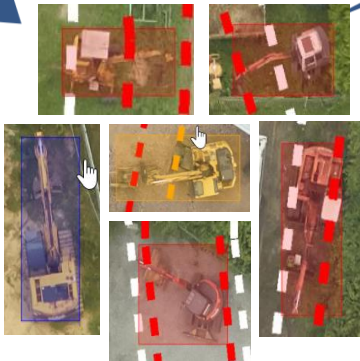# AUTOMATIC PROCESSING FOR ISR MISSIONS

Aircraft operation involving one pilot focused on the flight plan

RGB payload of 150Mpx completely autonomous to relax workload for the pilot

Capability to cover straight or tangled pipelines

Artificial Intelligence used to detect threats and objects

Various detection modules, dedicated to different object, can be implemented

Possibility to implement human doubt removal process to improve accuracy

Advanced reporting supporting customer's operations and decision-making processes

Aggregation of reports to improve the level of information

Integration of different type of information into the same layout (augmented reality)

Delivery of the final report directly into the customer's operational system