

Technical Data

Aircraft Vehicle

| | |
|-----------------------|--|
| Materials | Full composites |
| Wingspan | 165in (4.2m) |
| Length | 59in (1.5m) |
| Maximum Take off Mass | 55lbs (25kg) |
| Engine Type | Gasoline Engine |
| Endurance | 10h / 540NM (1000km) |
| Cruise Speed | 38kt to 70kt (70 to 130km/h) |
| Maximum speed | 100kt (180km/h) |
| Maximum Altitude | 15.000ft (4.500m) |
| Climbing Rate | 100ft/mn (300m/mn) |
| Launch | Bungee catapult |
| Recovery | All Terrain, short range belly landing |

Payload Bay

| | |
|-----------------------|--------------------------------|
| Volume | 35x8x9 in3 (90x21x23 cm3) |
| Maximum Payload Mass | 11lbs (5kg) |
| Electric Power Supply | 100W, 12V regulated |
| Openings | Automated Sideopening Hatches* |
| Fastening | Fastening Rails* |

*Customization on demand

Operational Conditions

| | |
|----------------------------|---|
| Transport | Entire system contains in a trailer for light vehicules |
| Preparation Time | Less than 20min |
| Temperature Range | -4 °F to 122 °F (-20 °C to +50 °C) |
| Max Wind Speed for Takeoff | 32kt (60km/h) |

System

| | |
|------------------------|--|
| General | Full automatic mission flight, cartographic monitoring |
| Ground Control Station | Customized from QGControl Software, additionnal safety module |
| Landing, Takeoff | Automatic takeoff, RTK aided landing, possibility of full manual control |

UAV System



AJS Boreal

The BOREAL UAV System is designed, developed and built by SAS BOREAL, using aeronautical technologies. In addition, SAS BOREAL is able to adapt and customize the product to meet user needs, particularly for scientific applications or collecting measurements (contact us for more details).

www.boreal-uas.com

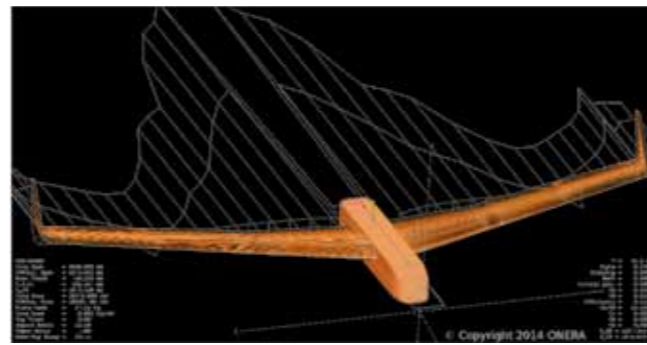
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Precision, heavy payload capacity, long endurance

Features

- Large payload area, easy fastening
- 5Kg payload, 100 W electric power supply available
- Stable and precise flight
- Long endurance long range (10 h / 1000 km)
- All terrain operations thanks to a catapult on a light trailer, and short low speed belly landing
- Large belly hatches
- DGAC (French ANSP) Certified
- Cartographic monitoring, waypoint mission programming



Aerodynamic Model (ONERA/DCSD)



GCS for control and monitoring



Specific Payload Test

Boreal



Catapult Take off

Use Cases

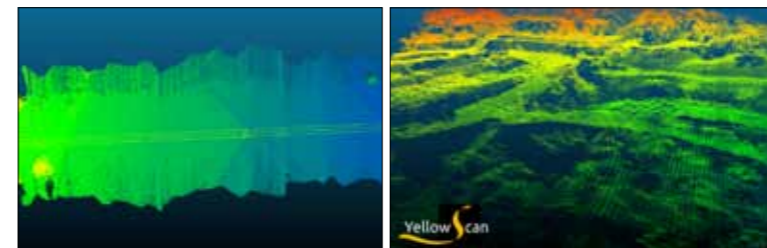
Examples

High Resolution Imagery

Trajectory precision, stability and large payload capacity are the key features for high quality photography.



Very high resolution and large scale cartographic surveys over French Polynesian Atolls (CEA, L'Avion Jaune) | www.lavionjaune.fr



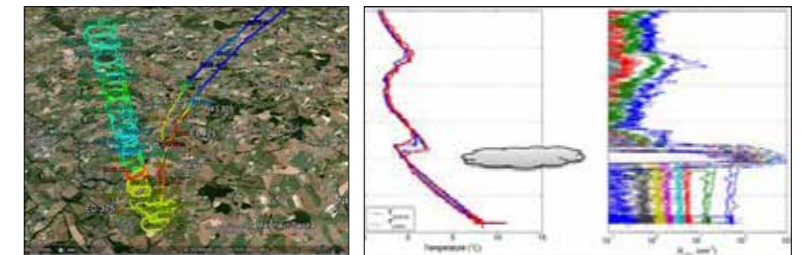
Yellowscan LIDAR scanning | <http://yellowscan.lavionjaune.com>

LIDAR

Stability and payload capacity allow efficient LIDAR scanning above large areas (infrastructures, environment).

Meteorology

The payload and altitude performances of the UAV permit scientific measurements like temperature, humidity, turbulence, radiometry, and aerosols.



In Gers, France (2012), an atmospheric campaign with several flights up to 3000m, across the cloud cover (CNRS / Météo France, L'Avion Jaune) | www.cnrm.meteo.fr



System experimentation

Thanks to its carrying capacity, the aircraft is involved in many scientific and/or R&D projects using high on board computing power, like GNSS reflectometry (e.g. H2020 Mistrale project) or real time image processing.