YellowScan
Product Catalog.

About
YellowScan

« Just press the
Yellow Button »

YellowScan LiDAR products are fully integrated systems designed for commercial UAV applications. Our LiDAR solutions include a laser scanner, IMU, GPS, embedded computer and batteries.

Overview.

At YellowScan we design, develop and produce aerial drone imaging sensor systems for professional applications.

Fully integrated, ultra-light and easy to use, these highly automated data collection tools are employed by customers around the world in fields such as surveying, forestry, environmental research, archeology, industrial inspection, civil engineering and mining.

Experience.

With more than 13 years of field experience, YellowScan is committed to deliver the highest level of performance, reliability and robustness for its solutions.

Worldwide company.

Located in Montpellier, attractive city in the South of France, YellowScan headquarter is right in the heart of the European Union, with good transport connections in all directions.

Sales, customer training and support are delivered by a worldwide network of representatives covering Europe, North and South America, Asia, Australia, and Africa.

Our platforms are field tested all over the world in multiple environments (tropical forests, bare soils, mountains, rivers, coast lines, open-pit mines, power lines).

330

360

350

LiDAR
Applications

LiDAR technology has proven its efficiency in providing precise aerial surveying. With laser sensors that can be mounted on UAV's and other light aircraft, we can now generate 3D mapping data. The technical applications are steadily increasing and diverse.
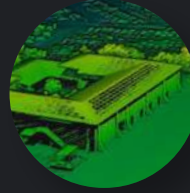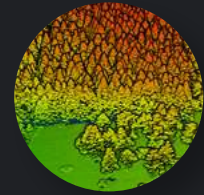
There is a YellowScan solution for each of your projects

YellowScan systems are ideally suited for :

▸ Small areas (<10 km² or 100 km linear)

▸ Under vegetation

▸ Hard-to-access zone (by foot or airplane)

▸ Data needed in near real-time, frequently, or regularly

▸ Accuracy range 2.5-15 cm

Archaeology

Civil Engineering

Forestry

Utilities

Environment

Mining

Products
Overview

Reliable UAV LiDAR systems for 3D mapping

YellowScan is the world's lightest stand-alone surveying solution for drones and other ultra-light aircraft. Our LiDAR for drone product line is light-weight, fully-integrated with embedded batteries. We designed each system to meet 3D mapping high precision and accuracy needs.

At YellowScan, we are committed to help leading the LiDAR revolution in remote sensing and 3D aerial mapping.

Our aerial approach can cover faster a zone and deliver more consistent results than ground mapping techniques.

	Mapper II	Surveyor	Ultra	Vx-15	Vx-20	Vx-DL
Precision	●	●●	●	●●●	●●●	●●●
Accuracy	●	●●	●●	●●	●●●	●●●
Point density	●	●●	●●●	●●	●●	●●●
Altitude	●●	●●	●●●	●●	●●●	●●
Price	●	●	●●	●●	●●●	●●●

YellowScan
Mapper II

Entry level UAV
LiDAR solution

⚙ ## Technical specifications

Scanner	Ibeo LUX Class 1 laser
Wavelength	905 nm
Precision	15 cm
Accuracy	10 cm
Scanner field of view	110°
Shots per second	18.5k
Echoes per shot	Up to 3
GNSS-Inertial solution	Applanix APX-15 UAV
Weight	2.1 kg (4.6 lbs) battery included
Autonomy	1.5 hours typ.
Power consumption	15 W
Operating temperature	-20 to +50 °C
Size	L 15.5 x W 20.3 x H 17.6 cm
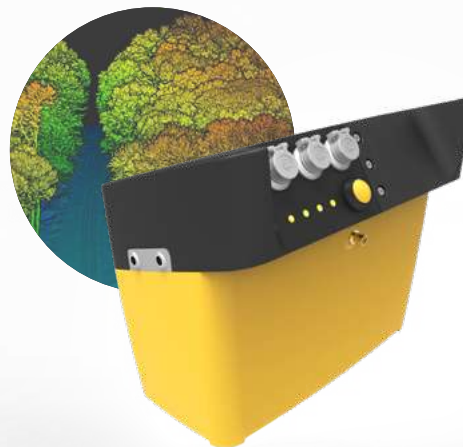
Technologies inside
▸ Applanix
▸ Ibeo

UAV Integration
▸ Multirotor drones

Key differentiators
▸ Rugged scanner
▸ 3 echoes
▸ Budget friendly

Options
▸ Mounting bracket
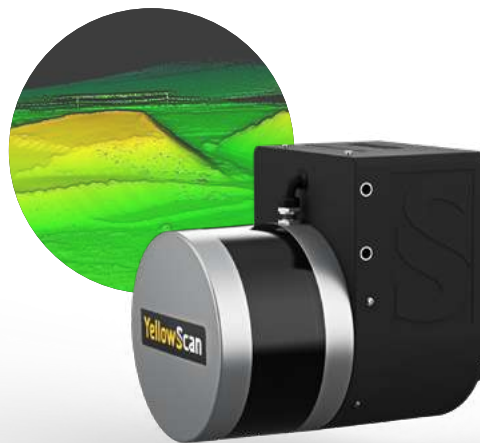▸ YellowScan LiveStation
▸ Warranty and technical support extensions

YellowScan
Surveyor

The lightest and most versatile
UAV LiDAR solution

⚙ Technical specifications

Scanner	Velodyne VLP-16
Wavelength	903 nm
Precision	4 cm
Accuracy	5 cm
Scanner field of view	360°
Shots per second	300k
Echoes per shot	Up to 2
GNSS-Inertial solution	Applanix APX-15 UAV
Weight	1.6 kg (3.5 lbs) battery included
Autonomy	1.5 hours typ.
Power consumption	15 W
Operating temperature	-20 to +50 °C
Size	L 16 x W 10.5 x H 14 cm

Technologies inside
▸ Applanix
▸ Velodyne LiDAR

UAV Integration
▸ Multirotor drones
▸ Helicopter drones

Key differentiators
▸ Fits most applications
▸ Compact
▸ Lightest

Options
▸ Mounting bracket
▸ YellowScan LiveStation
▸ Warranty and support
▸ Fly & Drive

YellowScan
Surveyor Ultra

The high density and long-range
UAV LiDAR solution

Technical specifications

Scanner	Velodyne VLP-32
Wavelength	903 nm
Precision	10 cm
Accuracy	5 cm
Scanner field of view	360°
Shots per second	600k
Echoes per shot	Up to 2
GNSS-Inertial solution	Applanix APX-15 UAV
Weight	1.7 kg (3.75 lbs) battery included
Autonomy	1.2 hours typ.
Power consumption	19 W
Operating temperature	-10 to +40 °C
Size	L 18 x W 10.5 x H 14 cm

Technologies inside
▶ Applanix
▶ Velodyne LiDAR

UAV Integration
▶ Multirotor drones
▶ Helicopter drones
▶ Fixed wings

Key differentiators
▶ High point density
▶ Maximized range
▶ Productivity solution
▶ Optimized for fixed-wing

Options
▶ Mounting bracket
▶ YellowScan LiveStation
▶ Warranty and support
▶ Fly & Drive

YellowScan
Vx-15

The high precision and long range UAV LiDAR solution

⚙️ **Technical specifications**

Scanner	RIEGL miniVUX-1UAV
Wavelength	905 nm
Precision	1 cm
Accuracy	5 cm
Scanner field of view	360°
Shots per second	100k
Echoes per shot	Up to 5
GNSS-Inertial solution	Applanix APX-15 UAV
Weight	2.6 kg (5.7 lbs) battery included
Autonomy	1.5 hours typ.
Power consumption	25 W
Operating temperature	-20 to +40 °C
Size	L 35 x W 11 x H 17 cm

Technologies inside
▶ Applanix
▶ Riegl

UAV Integration
▶ Multirotor drones
▶ Helicopter drones

Key differentiators
▶ High precision point cloud
▶ Maximized range
▶ Calibrated intensity value

Options
▶ Mounting bracket
▶ YellowScan LiveStation
▶ Warranty and technical support extensions

# YellowScan
Vx-20

The most accurate and high
precision UAV LiDAR solution

⚙ Technical specifications

Scanner	RIEGL miniVUX-1UAV
Wavelength	905 nm
Precision	1 cm
Accuracy	2.5 cm
Scanner field of view	360°
Shots per second	100k
Echoes per shot	Up to 5
GNSS-Inertial solution	Applanix APX-20 UAV
Weight	3.1 kg (6.8 lbs) battery included
Autonomy	1.5 hours typ.
Power consumption	25 W
Operating temperature	-20 to +40 °C
Size	L 43 x W 11 x H 17 cm
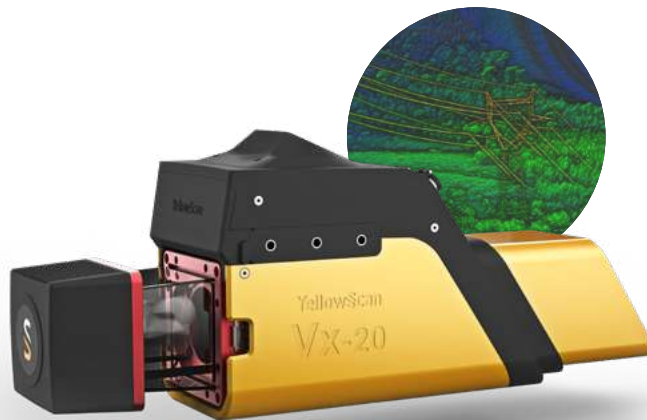
Technologies inside
▶ Applanix
▶ Riegl

UAV Integration
▶ Multirotor drones
▶ Helicopter drones

Key differentiators
▶ High precision point cloud
▶ Maximized range
▶ Calibrated intensity value
▶ Highest accuracy

Options
▶ Mounting bracket
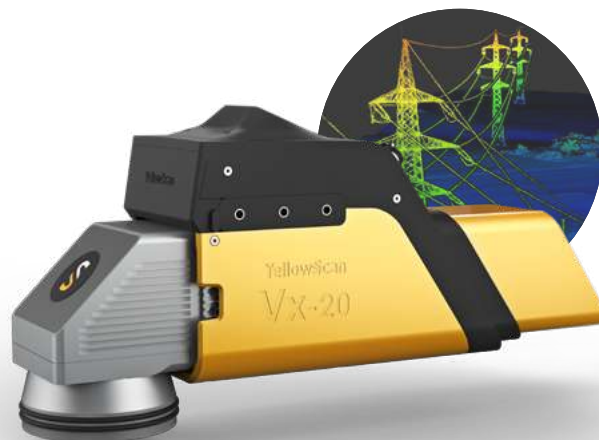▶ YellowScan LiveStation
▶ Warranty and technical
support extensions

YellowScan
Vx-DL

The high precision solution
dedicated to linear applications

⚙ Technical specifications

Scanner	RIEGL miniVUX-1DL
Wavelength	905 nm
Precision	1 cm
Accuracy	2.5 cm
Scanner field of view	46°
Shots per second	100k
Echoes per shot	Up to 5
GNSS-Inertial solution	Applanix APX-20 UAV
Weight	4.1 kg (9 lbs) battery included
Autonomy	45 minutes typ.
Power consumption	50 W
Operating temperature	-20 to +40 °C
Size	L 42 x W 11 x H 19 cm

Technologies inside
▸ Applanix
▸ Riegl

UAV Integration
▸ Multirotor drones
▸ Helicopter drones
▸ Fixed wings

Key differentiators
▸ Optimized for
  fast-moving platform
▸ Dedicated to linear
  infrastructure scanning

Options
▸ Mounting bracket
▸ YellowScan LiveStation
▸ Warranty and technical
  support extensions

YellowScan
Fly & Drive

Fly when you can, drive when you must.

NEW

The YellowScan Fly & Drive is a versatile vehicle-mounted or UAV-mounted mobile mapping system which combines high resolution laser scanning and precise positioning to collect geo-referenced point clouds for a wide range of applications.

Vehicle and UAV
Designed for a maximum operational flexibility and full coverage from the air and from the ground.

Easy to use
Reduces project times through rapid implementation, collection and data analysis.

GPS Antenna

⊕ **Cameras**
Optional 360° FOV Camera for vehicle mounting

Aluminum chassis and fiberglass aerodynamic pod

LiDAR Subsystem
Designed to be easily swapped in minutes from vehicles to UAV.

✔ Hardware:

▶ YellowScan Surveyor or Surveyor Ultra (with Fly & Drive option)

▶ Fly & Drive car pod

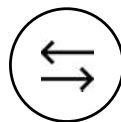▶ Mounting bracket compatible with UAV & vehicles

▶ GNSS antenna and cable

⊕ Optional:

▶ Single or dual camera options for DJI M600 UAV

▶ 360° Panoramic camera for vehicle mounting

▶ DMI (odometer)

▶ Power supply cable for vehicle

▶ YellowScan LiveStation

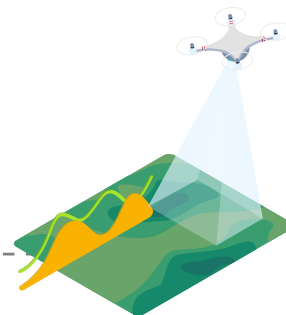## ✔ Sofware included:

▶ Applanix POSPac MMS

▶ YellowScan CloudStation

Car LiDAR Acquisition

Easy swap

UAV LiDAR Acquisition

The Fly & Drive car pod can be mounted to any vehicle

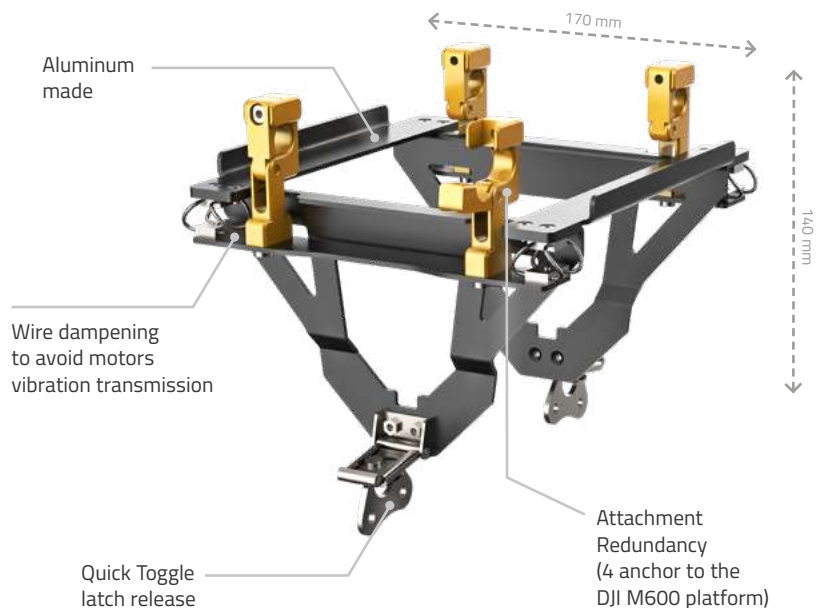The swap between car & UAV takes less than 5 minutes

The standard mounting bracket for DJI M600

Mounting
Bracket

Designed to be easily
mounted on the DJI
Matrice 600 platform

The quick mount was created to support each DJI Matrice 600 owner. You can add the photogrammetry option, single or dual camera, to get colorized point clouds. Compatibility with Surveyor and Vx series.

Aluminum
made

Wire dampening
to avoid motors
vibration transmission

Quick Toggle
latch release

Attachment
Redundancy
(4 anchor to the
DJI M600 platform)

170 mm

140 mm

Stand-alone quick mount

▸ Total weight: 392 g *(0,86 lb)*
▸ Compatibility with Vx and
  Surveyors series

Included

▸ Quick mount
▸ Screws and hooks

Single Camera option

▸ Total weight (cam excl.):
  250 g *(0,55 lb)*
▸ Sony α6000 or A7R compatible

Included

▸ Single camera mount
▸ Synchronization cable
▸ Rugged pelicase

Optional

▸ Sony α6000 or A7R camera
▸ 12mm Samyang lens
▸ 128Gb SD memory card
▸ Calibration services

Dual Camera option

▸ Total weight (cam excl.):
  364 g *(0,8 lb)*
▸ Sony α6000 compatible

Included

▸ Dual camera mount
▸ Synchronization cable
▸ Rugged pelicase

Optional

▸ 2x Sony α6000 camera
▸ 2x 16mm Sony lens
▸ 2x 128Gb SD memory card
▸ Calibration services

YellowScan **LiveStation**

Real-time in-flight LiDAR monitoring station

YellowScan LiveStation enables you to monitor in real time the validity and quality of the data being collected by the YellowScan LiDAR systems, to ensure that the survey is going smoothly.
A must for long endurance or critical LiDAR flights.

YellowScan LiveStation provides system operators with the immediate and relevant information needed to ensure a smooth acquisition even in difficult working conditions. The software renders a real-time, three-dimensional representation of the point cloud during flight, with ability to zoom, translate or rotate.

Main features

▶ Live 3D point cloud visualization

▶ Speed, altitude, IMU & GNSS

▶ Trajectory visualization

▶ Mission replay

Missions can later be replayed for analyzing flight conditions and data.

✓ **Live visualization during flight and mission replay:**

▶ Point cloud (Top or 3D view)

▶ Flight trajectory

▶ Transect (LiDAR position, first and last echoes)
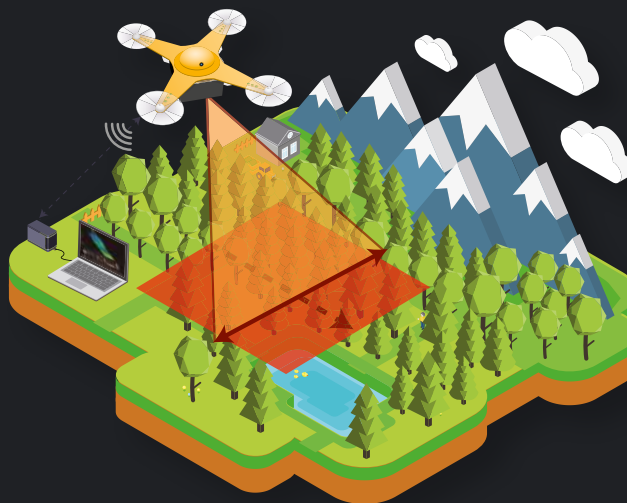
▶ Attitude

✓ **Navigation controls & status:**

▶ IMU & GNSS

▶ Speed & Altitude

▶ Elapsed Time

▶ Radio signal

✓ **Viewer parameters:**

▶ Point size and color
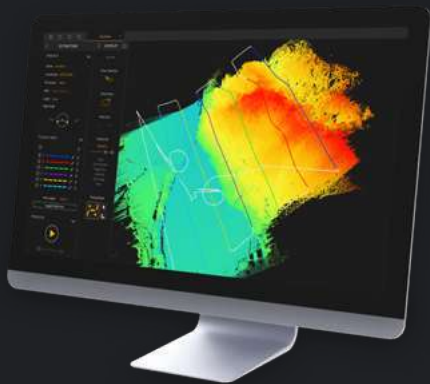
▶ Quick preset views

✓ **Technical specifications:**

▶ Operating on Windows 7 to 10 and Linux

▶ Connection to the YellowScan systems using 900 MHz or 2.4 GHz radio-modems (weight: 90g including antennas and cable, up to 1W) or serial cable for manned aircrafts.

YellowScan **CloudStation**

CloudStation is the new proprietary software developed by YellowScan to generate and visualize point-clouds. It comes as an all-integrated solution to allow a better and simplified experience for the customer.

All-integrated software to handle your point-clouds

NEW

YellowScan CloudStation provides a complete software solution to create and manipulate point-cloud data. It allows to extract, process and display data immediately after flight acquisition. The auto-generation of flightlines and the production of LAS files are now done in only few clicks.

Main features

▸ Optimized and user-friendly graphical interface

▸ Automatic or custom flightline selection

▸ Advanced visualization tools

Technical specifications

▸ Operating on Linux and Windows 10

▸ Offline license mode

▸ Optional extra license seats

▸ Automatic updates

CloudStation Core :

PROCESSING OF POINT-CLOUDS

▶ Project settings (Coordinate System, LiDAR profile, angle range...)

▶ Automatic flightlines selection

▶ Process and export in .las format

DISPLAY OPTIONS

▶ Cloud color (Elevation, Intensity, Echo...)

▶ Measurement tools
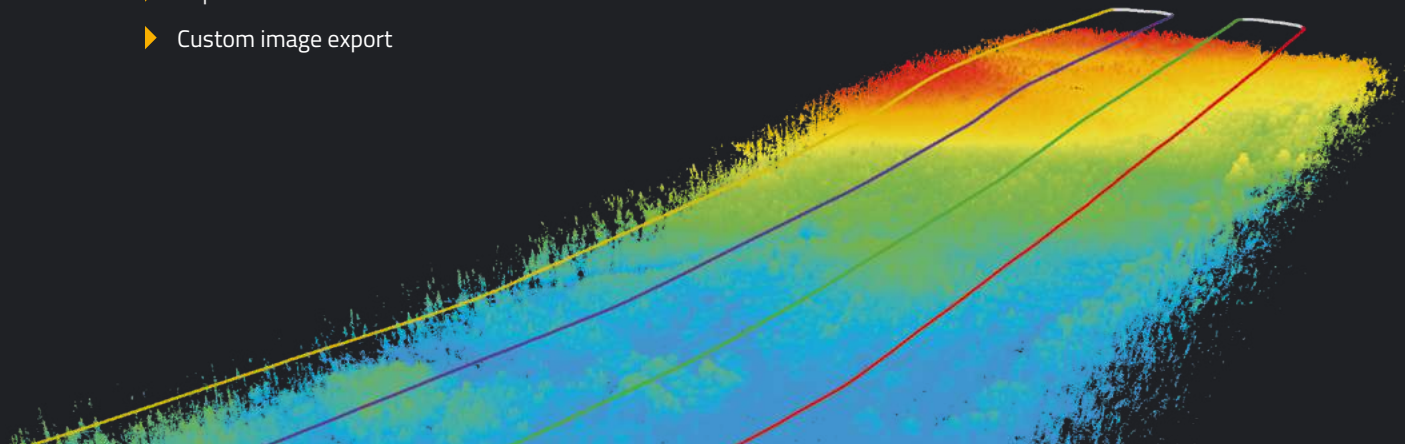
▶ Top or 3D view

▶ Custom image export

Options :

LINE MATCHING MODULE

▶ State-of-the-art algorithm

▶ Seamless strip adjustment

▶ Single-click matching process

Each software version is provided with support, maintenance, and updates at no additional costs.

Our Services

Discover our
service packs

Expert

Fully integrated LiDAR
solution with all tools
and support

Effective

Optimize your workflow,
expand your business,
reduce your bother

User-friendly

Easy data acquisition :
be more productive
in the field

PRO PACK

Warranty	On-Site Training	Healthcheck	Remote Assistance	Battery replacement	Loan during Repair
3 years	Advanced	Annual	15 hours	Yes	Yes

STANDARD PACK

Warranty	On-Site Training	Healthcheck	Remote Assistance	Battery replacement	Loan during Repair
2 or 3 years	Getting Started	Annual	10 hours	Yes	No

BASIC PACK

Warranty	On-Site Training	Healthcheck	Remote Assistance	Battery replacement	Loan during Repair
1 year	Getting Started	Annual	5 hours	No	No

Warranty
Warranty and Technical Support extension for your YellowScan LiDAR system.

On-Site Training
2-day training (getting started) or 3-day training (advanced) at the customer's premises.

Healthcheck
Provision of calibration flight procedure. Remote computation of boresight angles. General check-up of all the components.

Remote Assistance
Hours of remote consulting support (training refresh, operations advices).

Battery replacement
If battery is deficient in the warranty period a replacement battery will be sent.

Loan during Repair
Unit loan while your unit is being repaired during 3-year warranty period.

UAV Integrations

Compatible aerial platforms

YellowScan is the world's lightest stand-alone surveying solution for drones and other ultra-light aircraft. During our years of experience, we have tested several drone platforms. Here we suggest a list of UAVs to fly safely with your YellowScan LiDAR system.

If your UAV is not mentioned, our support service is dedicated to help you integrating your systems.

Below, a non-exhaustive list of UAV where YellowScan systems have been integrated.

Multirotor Drones
Selection:

- *Matrice 600* from DJI
- *Matrice 200/210* from DJI
- *Hawk Moth* from MSP
- *md4-1000* from Microdrones
- *GeoDrone X4L* from Video Drone
- *MK8* from MikroKopter

Helicopter Drones
Selection:

- *Vapor 55* from Pulse Aerospace
- *ORC2* from Altus Intelligence
- *Helipse HE-190E* from Helipse
- *Procyon 800E* from NOVAerial
- *Vapor 35* from Pulse Aerospace
- *Alpha 800 UAV* from AUS

Fixed-wing Drones
Selection:

- *TRON* from Quantum Systems
- *Songbird* from Germandrones
- *Boreal* from AJS
- *178 Heavy Lift* from Wingcopter

LiDAR for UAV.

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