



YellowScan Voyager.



Precision meets reality.

The YellowScan Voyager is our highest range LiDAR solution, with a range of up to 760m.

Its laser scanner's wide field of view of 100° and its extremely fast data acquisition rate of up to 1.8 MHz, makes this solution the best option for projects requiring the highest point density.



Technologies inside

aplanix | RIEGL



Key differentiators

- ▶ 1.8 million pts/second
- ▶ Up to 15 echoes
- ▶ Multi-platform



Integrations

- ▶ Manned aircraft
- ▶ Multirotor UAV
- ▶ Fixed-wing UAV



Technical specifications.

Scanner precision ⁽¹⁾⁽³⁾	0.5 cm
Scanner accuracy ^{(2) (3)}	1 cm
Laser scanner	RIEGL VUX-120
Laser Pulse Repetition Rate	Up to 1800 kHz
Echoes per shot	Up to 15
Wavelength	Near infrared
Range	Up to 760 m
Scanner field of view	100°
GNSS-Inertial solution	Applanix AP+30 AIR or AP+50 AIR

Weight	3.5 kg (7.7 lbs) battery excluded
Size	L 36.9 x W 11.7 x H 18.3 cm
Autonomy	1 hours typ.
Power consumption	55 W
Operating temperature	-10 to +40°C

(1) Precision, also called reproducibility or repeatability, is the degree to which further measurements show the same result.

(2) Accuracy is the degree of conformity of a measured quantity to its actual (true) value.

(3) One sigma @ 150 m range under RIEGL test conditions.

Package includes.

✓ Hardware:

- ▶ YellowScan Voyager[™] (AP+30 AIR or AP+50 AIR IMU option)
- ▶ Rugged pelicase
- ▶ Charger and 2 batteries
- ▶ GNSS antenna and cable
- ▶ 2 USB flash drives
- ▶ Documentation

✓ Services:

- ▶ 1-year unlimited technical support
- ▶ 1-year warranty
- ▶ In-person or online training
- ▶ Boresight calibration certificate



✓ Software:

- ▶ Applanix POSPac UAV, to post-process GNSS and inertial data for highest accuracy
- ▶ YellowScan CloudStation, to generate and visualize your georeferenced pointcloud

⊕ Optional:

- ▶ Strip Adjustment module: a pointcloud enhancing toolbox for the CloudStation software
- ▶ Terrain module: export classified point cloud from the CloudStation software
- ▶ Stand-alone mounting bracket for DJI M600
- ▶ Warranty and technical support extensions

Typical mission parameters.

▶ Airborne parameters

PRF	FLIGHT SPEED	FLIGHT HEIGHT	POINT DENSITY	TARGET PER PULSE
150 kHz	30 m/s	440 m AGL	3.9 pts/m ²	15
150 kHz	15 m/s	440 m AGL	7.9 pts/m ²	15
300 kHz	30 m/s	320 m AGL	10.9 pts/m ²	15
300 kHz	15 m/s	320 m AGL	21.8 pts/m ²	15
600 kHz	30 m/s	230 m AGL	30.3 pts/m ²	15
600 kHz	15 m/s	230 m AGL	60.9 pts/m ²	15

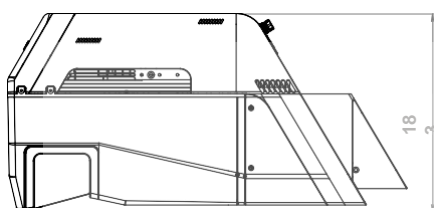
▶ UAV parameters

PRF	FLIGHT SPEED	FLIGHT HEIGHT	POINT DENSITY	TARGET PER PULSE
1200 kHz	25 m/s	160 m AGL	105 pts/m ²	8
1200 kHz	5 m/s	160 m AGL	525 pts/m ²	8
1800 kHz	25 m/s	130 m AGL	193.5 pts/m ²	5
1800 kHz	5 m/s	130 m AGL	969 pts/m ²	5

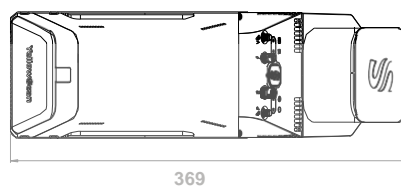
Dimensional drawings.

① Dimensions expressed in millimeters

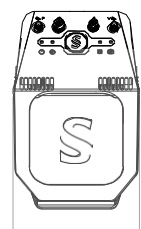
▶ Side view



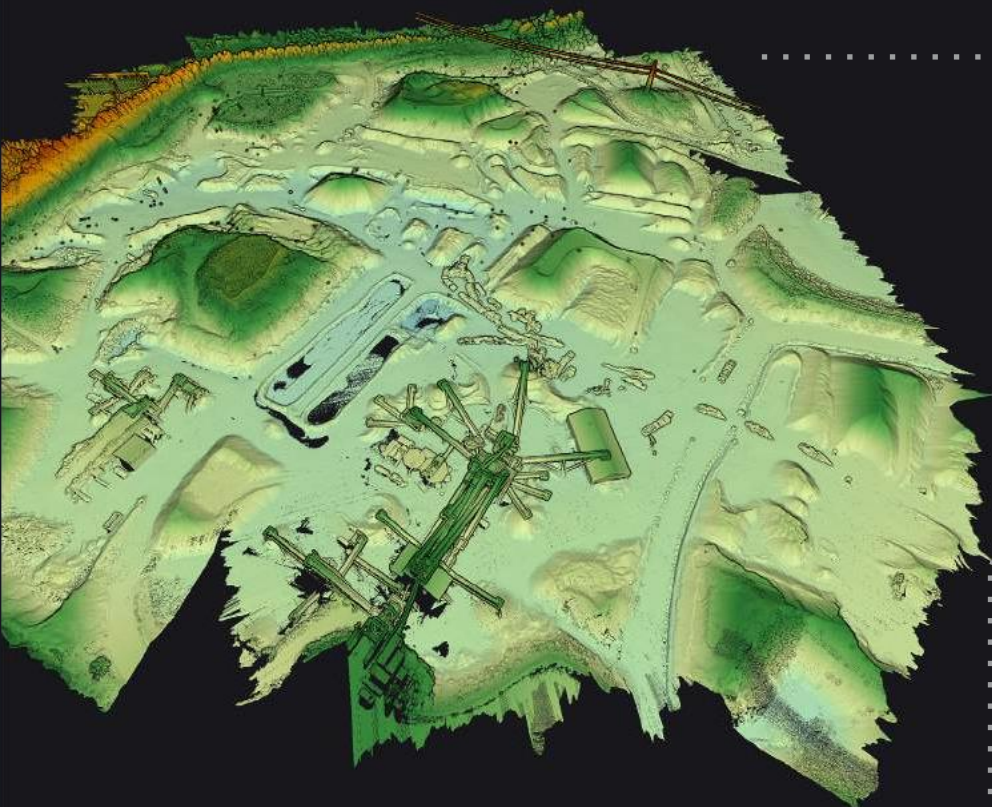
▶ Top view



▶ Front view



Typical pointcloud snapshots.



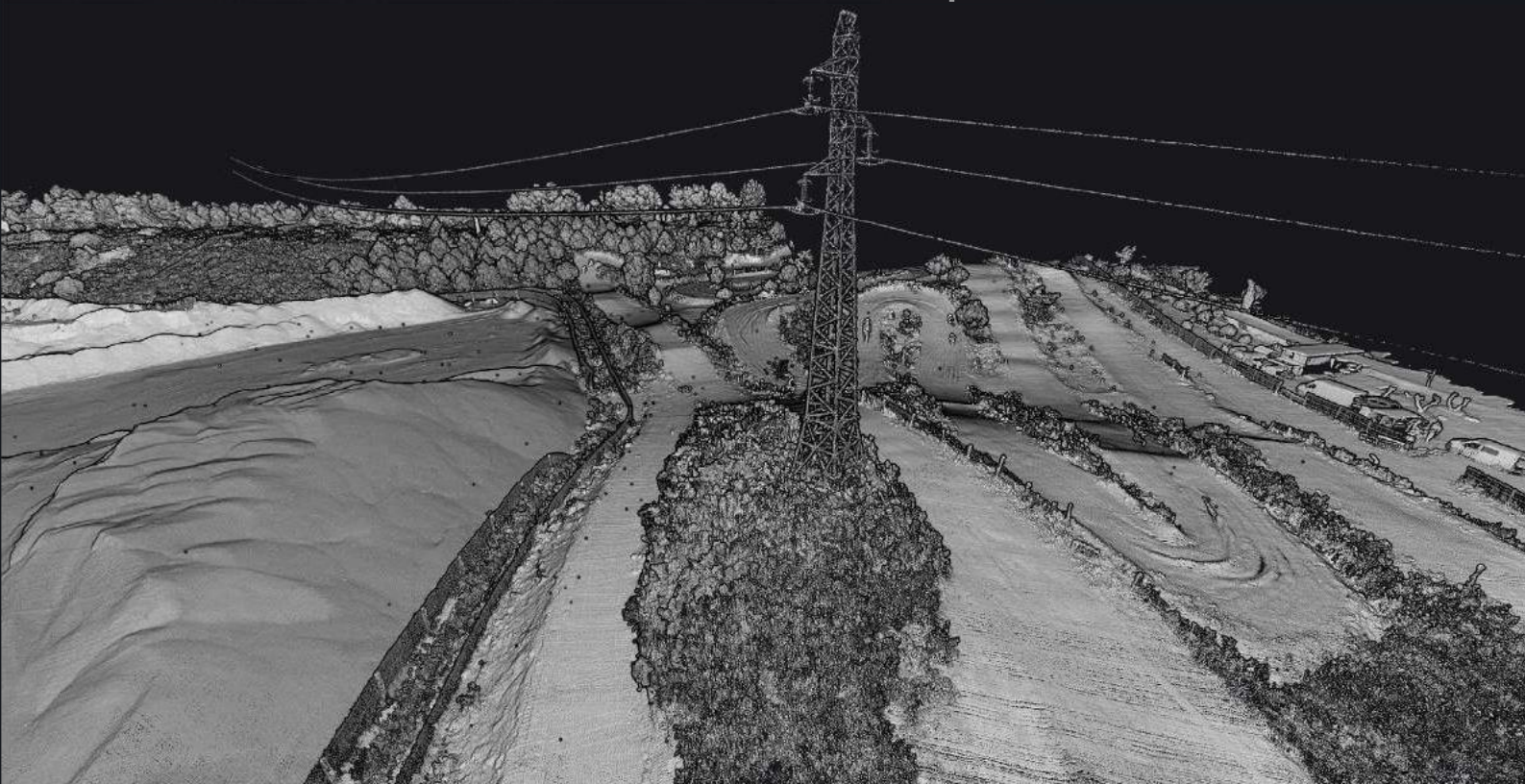
Voyager @1800 kHz PRF

- ▶ Platform: Multirotor UAV
- ▶ Flight height: 80 m AGL
- ▶ Speed: 5 m/s



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GoUAV
INNOVATIVE FLYING SOLUTIONS

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