

## XFLY Lidar Solution

Lidar Solution



# XFLY Accurate & Reliable

XFLY series integrates high performance Inertial Navigation System with camera and LiDAR for point cloud generation.

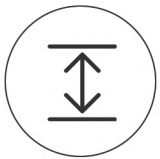
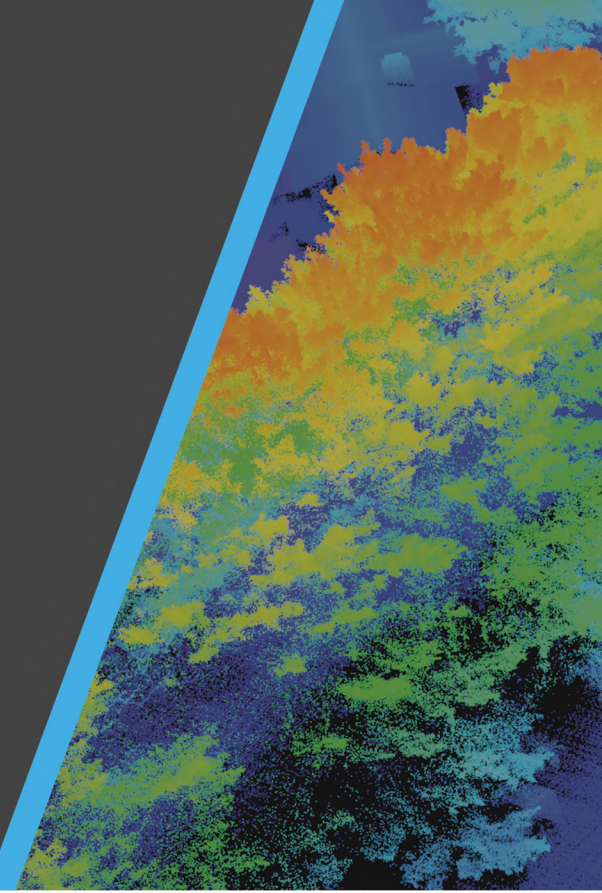
Different customer's need can be met by the choice of Hesai LiDAR XFLY<sup>120</sup>, XFLY<sup>300</sup> or other sensors.

The processing platform contains a Wi-Fi interface, an embedded cellular modem for RTCM corrections, data logging software and a gigabit Ethernet network.

Equipped with a high-performance INS, it delivers clean point clouds even at high AGL.

As a small, lightweight and low-power system, it allows the user to fly longer, adapting to the needs of any project.

The post-processing software provides fully automatic point cloud generation.



## 200M AGL

Fly up to 200 meter above ground level.



## ACCURACY

Thanks to high performances GPS-Aided INS, 3-5 cm point cloud accuracy can be achieved.



## CAMERA

24 MP camera adds RGB information to the data. Camera comes to the customer already calibrated and with these boresighting values already saved onto the device.



## FLY & DRIVE

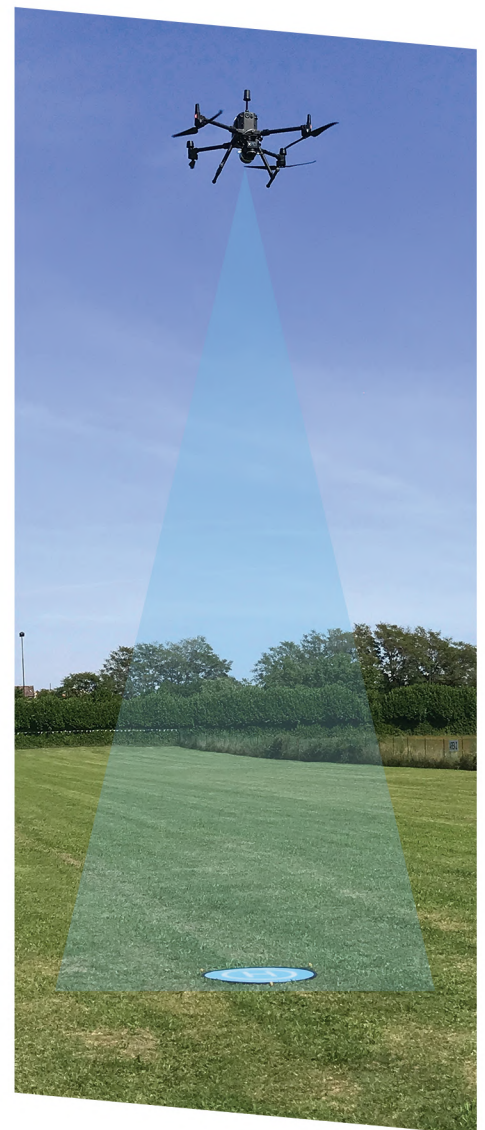
Different mounts are offered to support the assembly onto well-known UAVs and other platforms, like cars.

*Among the compatible UAVs: DJI M210 - M300 - M350 - M600, Inspired Flight IF1200 Hexacopter, Freely Alta X, Freely Astro, WISPR Ranger Pro 1100, Sony Airpeak S1*



## PPK/RTK DUAL/SINGLE GNSS

Depending on customer's application, choose whether you want single or dual GNSS antenna. For who wants to avoid post processing, Real Time Kinematic solution is also available.



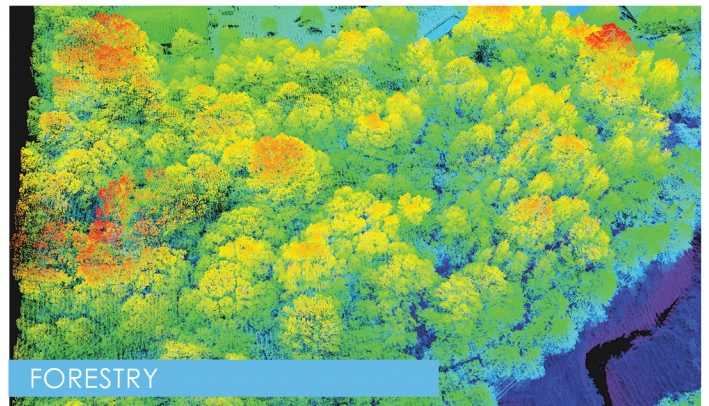




## FLYpost

The software observes and corrects misalignments between the INS and LiDAR, and georeferences the data into a geographic coordinate system.

The post-processed INS trajectory, LiDAR scan files and camera images are converted to point clouds in LAS format for further processing.





# XFLY TECHNICAL FEATURES

## XFLY<sup>300</sup>

SYSTEM	
System Vertical Accuracy (5m/s @50m)	±3cm
Recommended AGL	50-120m
Weight	1.23kg (with camera) 0.87kg (no camera)
Dimensions	20.8 x 14.8 x 15.2 cm
Max Flight Time (DJI M300)	35 Minutes
External Storage	256GB USB Included
CAMERA	
Model	ADTi 24MP RGB
Lens	Sony E-Mount 16mm, 70° FOV
Max Trigger Rate	2 seconds

LIDAR	
Sensor*	Hesai XT-32M2X
Range	0.5 - 300m 80m @10% (all channels)
Range Accuracy	±1cm
FOV (Horizontal)	360°
FOV (Vertical)	40.3°
Scan Angle (Vertical)	-20.8° to 19.5°
Beam Divergence	0.21° (H), 0.047° (V) <sup>1</sup>
Channels	32
Returns	3
Pulse Rate	640k/s (single return) 1280k/s (double return) 1920k/s (triple return)

GPS-AIDED INS	
Constellations	GPS, GLONASS, BEIDOU, GALILEO
Output Rates	Up to 200HZ (INS) Up to 2000HZ (IMU)
Pitch/Roll Accuracy	0.03 (RTK) <sup>2</sup> 0.006 (PPK)
Heading Accuracy	0.15 (RTK) <sup>2,3</sup> 0.03 (PPK)
Velocity Accuracy	<0.03 m/s
Position Accuracy	1cm+1ppm (RTK) 0.5cm (PPK)

## XFLY<sup>120</sup>

SYSTEM	
System Vertical Accuracy (5m/s @50m)	±3cm
Recommended AGL	50-80m
Weight	1.7kg (with camera) 1.3kg (no camera)
Dimensions	20.8 x 14.2 x 17 cm
Max Flight Time (DJI M300)	33 Minutes
External Storage	256GB USB Included
CAMERA	
Model	ADTi 24MP RGB
Lens	Sony E-Mount 16mm, 70° FOV
Max Trigger Rate	2 seconds

LIDAR	
Sensor*	Hesai XT-32
Range	0.5 - 120m 80m @10% (c9-24) 50m @10% (c1-8; 25-32)
Range Accuracy	±1cm
FOV (Horizontal)	360°
FOV (Vertical)	31°
Scan Angle (Vertical)	-16° to 15°
Beam Divergence	0.04° (H), 0.098° (V) <sup>1</sup>
Channels	32
Returns	2
Pulse Rate	640k/s (single return) 1280k/s (dual return)

GPS-AIDED INS	
Constellations	GPS, GLONASS, BEIDOU, GALILEO
Output Rates	Up to 200HZ (INS) Up to 2000HZ (IMU)
Pitch/Roll Accuracy	0.03 (RTK) <sup>2</sup> 0.006 (PPK)
Heading Accuracy	0.15 (RTK) <sup>2,3</sup> 0.03 (PPK)
Velocity Accuracy	<0.03 m/s
Position Accuracy	1cm+1ppm (RTK) 0.5cm (PPK)

1. Varies by measurement range
2. Dynamic accuracy is dependent on type of motion
3. With 1-meter baseline

\* **OTHER SENSORS AVAILABLE:** For particular requirements, please contact us to evaluate alternative sensors with different performances.

Illustrations, descriptions and technical specifications are not binding and may change

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