

# Galaxy Edge

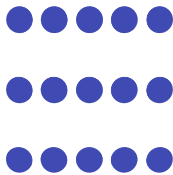
Corridor Mapper with an Edge

## The Highest Resolution Airborne Lidar with Edge Computing

The new Galaxy Edge is designed to drive maximum efficiency in all corridor surveying environments. From electric utilities, roads and rail to pipelines, a programmable field of view and 2 million points per second puts all measurements on the ground and delivers unsurpassed resolution. The Edge's tight laser footprint produces accurate and detailed modeling of complex and partial targets such as electrical towers, wires and conductors. Edge is a laser Class 3B sensor, compatible with fixed wing, pressurized aircraft, drone or helicopter platforms. Real-time processing powered by Galaxy Onboard delivers lidar point clouds for immediate use upon landing.



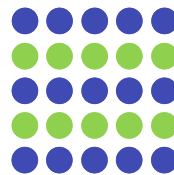
### FEATURES & BENEFITS



#### PARALLEL SCAN LINES

Galaxy Edge now delivers straight and parallel scan lines

Uniform point spacing across the swath streamlines and cost-optimizes flight planning.



#### ADDITIONAL SCAN LINES

Galaxy Edge delivers more scanlines on the ground

Higher resolution of smaller objects like electric wires, poles, and street signs.



#### OPTIMIZED RESOLUTION

Galaxy Edge cuts atmospheric noise providing a clearer image

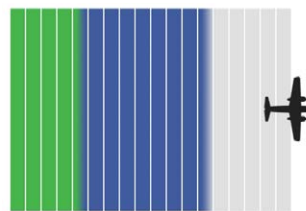
Reduces atmospheric noise and intensive labour delivering cleaner data, faster.



#### TURBULENCE & TERRAIN COMPENSATION

Galaxy Edge automatically compensates for airplane deviations and terrain changes

Reduces operational costs through ~50% reduction in flight lines and reflight.

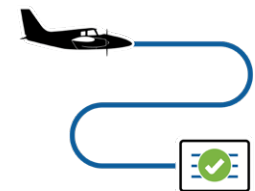


#### REAL-TIME PROCESSING & QC

Galaxy Onboard processes and quality controls point cloud data instantaneously while in flight

Real-time QC allows issues to be actioned immediately in the air, reducing standby and rework costs.

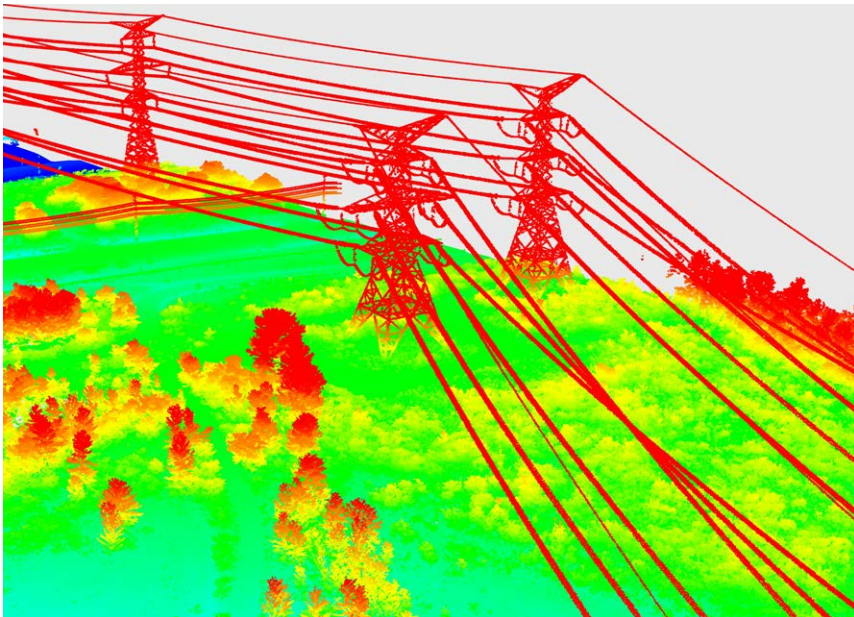
Full-resolution point cloud available on landing, delivering rapid answers for time-sensitive applications and disaster response.



#### DIRECT FROM PLANE TO PRODUCTION

Galaxy Onboard delivers real-time point clouds with <10cm relative and <15cm absolute accuracy.

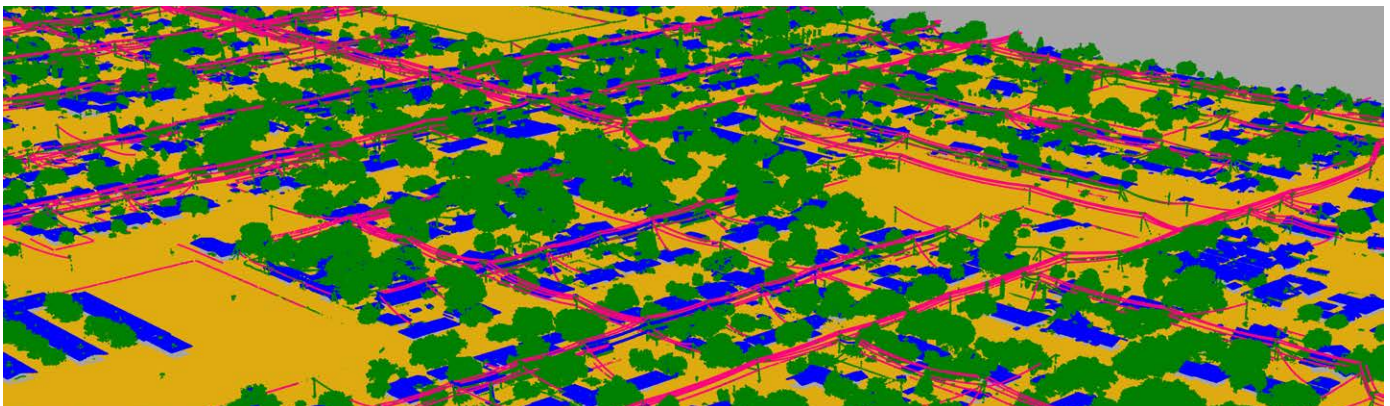
Bypasses processing and logistical delays and enables LAS data to be ingested directly into any production environment for classification, analysis, and same day delivery.



Transmission Right of Way

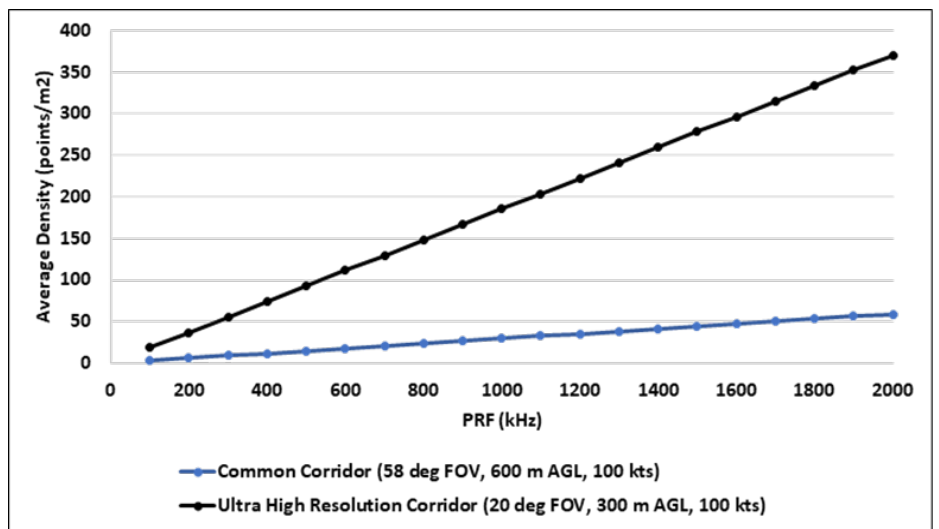


Integrated Cameras for Inspection



Electric Distribution Network

**Highest on-ground Resolution in Industry!**  
 via High Pulse Rate and 100% Efficient Scanner



PARAMETER	SPECIFICATION
<b>Sensor Performance</b>	
Performance envelope <sup>1,2,3,4</sup>	150-2000 m AGL, nominal
Absolute horizontal accuracy <sup>2,3</sup>	1/10,000 × altitude; 1 σ
Absolute elevation accuracy <sup>2,3</sup>	< 0.03-0.25 m RMSE from 150-6500 m AGL
<b>Laser Configuration</b>	
Topographic laser	1064-nm near-infrared
Laser classification	Class 3B
Pulse repetition frequency (effective)	Programmable, 100-2000 kHz
Beam divergence	0.16 mrad (1/e) or 0.23 mrad (1/e <sup>2</sup> )
Power Modes	20%, 40%, 70%, 100%
Laser range precision <sup>5</sup>	< 0.008 m, 1σ
Minimum target separation distance	< 0.7 m (discrete)
Range capture	Up to 8 range measurements, including last
Intensity capture	Up to 8 intensity measurements, including last (12-bit)
<b>Sensor Configuration</b>	
Position and orientation system	POS AV™ AP60 (OEM); 220-channel dual frequency GNSS receiver; GNSS airborne antenna with Iridium filters; high-accuracy AIMU (Type 57); non-ITAR
Scan angle (FOV)	20-60°
Swath width	10-115% of altitude AGL
Scan Pattern	Parallel scan lines
Scan frequency	Up to 180 Hz (360 scan lines/sec)
Scan Product *	Up to 3000
Flight management system	Optech FMS (Airborne Mission Manager and Nav) with operator console
SwathTRAK™	Dynamic FOV for fixed-width data swaths in variable terrain and correction for position and orientation deviations.
PulseTRAK™	Multipulse tracking algorithm with no density loss across PIA transition zones
Data storage	Removable SSD (primary); internal SSD (spare)
Power requirements	28 V; 400 W
Dimensions and weight	Sensor: 0.34 × 0.34 × 0.25 m, 27 kg — PDU: 0.42 × 0.33 × 0.10 m, 6.5 kg
Operating temperature	0 to +35°C
<b>Optional Peripherals</b>	
External data storage	Ruggedized, removable 2.5" SSD
Real-time Processing	Powered by Galaxy Onboard
Real-time Quality Control	Powered by Galaxy Onboard
Image capture	Compatible with 3rd party medium format cameras (PhaseOne, etc.)
Full waveform capture	16-bit digitization using Teledyne Intelligent Waveform Recorder (IWR-4)
Gyro-stabilization	SOMAG GSM4000 integration kit
Multi-sensor mounts and pods	Machined aluminum sensor mounts; single or dual Galaxy configurations + cameras Carbon-fiber sensor mounts supporting nadir and fore/aft oblique cameras. Heli-pod mount options for Bell 206/407 and AS350 (FAA-approved)

1. Target reflectivity ≥20%; 99% detection probability

2. Dependent on selected operational parameters; assumes nominal FOV of up to 40° in standard atmospheric conditions (i.e. 23-km visibility) and use of Optech LMS Professional software suite

3. Angle of incidence ≤20°

4. Target size ≥ laser footprint

5. Under Teledyne Optech test conditions, 1 sigma

\* Described as the ½ FOV x scan frequency.