



SENSOR SPECIFICATIONS:

Laser Scanner	RIEGL VUX-1LR or VUX-1UAV
Inertial Navigation System (INS)	IGI Compact MEMS (ROBIN) or FOG (PRECISION upgrade)
GNSS Receiver	Antcom L1/L2 antenna
Standard Camera	PhaseOne iXU-1000 2 x downward, (RGB and NIR) 1 x oblique

MOUNTING OPTIONS:

Eurocopter AS350/AS355:

AirFilm Model AFSP-1 (STC Number SR01785LA)

Bell 206/407:

AirFilm Model G1-1 (STC Number SR01654LA)

POWER:

Input Voltage 24V ± 30%

Helipod Power-Splitter cable

Connect scanner and RCU to aircraft via voltage stabiliser

All power & data interface cables

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature:	0°C to + 40°C
Storage Temperature:	-40°C to + 60°C
Relative Humidity:	95% non-condensing
Altitude:	10,000ft

The laser scanner RIEGL VUX-1 meets or exceeds the requirements of the following European Standard:
EN 61326-1:2006: Electrical equipment for measurement, control and laboratory use
Protection class: IP64, dust and splash-proof

SCANNER SPECIFICATIONS - VUX-1LR:

Scanner Max Range (Slow Speed*/Refl 80%)	1350m
Scanner Max Range (High Speed*/Refl 80%)	370m
Scanning Speed	10-200/sec
Field of View	330°
Max Effective Measurement Rate	750,000meas/sec
Scanner Precision	10mm

NAVIGATION SPECIFICATIONS - MEMS IMU:

Position	0.02m
Velocity	0.005m/s
Roll/Pitch	0.015°
True Heading	0.03°
Gyro-Bias	1°/h
Gyro-RW	0.07°/√h
Accelerometer Bias	0.1mg
Data Rate	400Hz

CAMERA SPECIFICATIONS:

Resolution	11,608 x 8708 (100MP)
Frame Rate	1sec
Lenses Available	40 to 80mm
Pixel Size	4.6µm

SYSTEM WEIGHT

Pod only	15kg
Scanner and IMU	7kg



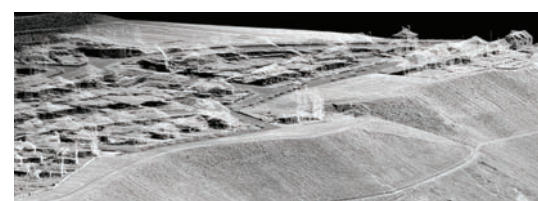
MEASUREMENT PRINCIPLES

Time-of-flight measurement

Echo signal digitisation

Online waveform and processing

Multiple time-around processing



SOFTWARE:

MMCAPTURE: Touchscreen interface to allow the scanner, camera and navigation system to be controlled and visualised in realtime.

OUTPUT DATA GENERATION: Sensor data is managed by MMProcess, GrafNav & AEROoffice. Export geo-referenced data into a multitude of different, user defined coordinate systems.

APPLICATION SOFTWARE: Output data can be visualised and used for different applications using Terrasolid software. Terrasolid has been designed for the post-processing and visualisation of laser, trajectory and image data. Running within Bentley Microstation, Terrasolid's applications provide versatile and capable tools for surveyors, civil engineers, designers and planners.

ROBIN +WINGS CONTROL UNIT



The ROBIN +WINGS Ruggedised Control Unit (RCU) has an integrated power converter and is designed to be connected directly to either standard aircraft/helicopter bus power.

If the aircraft used complies with the EURO 5/6+ regulation a secondary battery system may be required to allow the system to work during periods of low voltage alternator output.

The RCU houses an integrated i7 Windows based PC. It is provided with a separate 10" touchscreen monitor and has 2 x 1TB data storage drives which can be expanded for larger projects.

AIRBORNE CAMERA SYSTEM



We recommend the PhaseOne iXU range for use in the ROBIN +WINGS airborne pod. The lightest in its class, the iXUs are purpose built aerial survey medium format cameras.

The iXU range supports mid exposure signal collection for GNSS/IMU synchronisation and the typical survey FMS systems for automated release, FMC speed input and metadata interfacing.

The ROBIN +WINGS pod can support up to three (2 x downward, 1 x oblique) PhaseOne cameras and they are available in RGB and NIR configurations.



ROBIN +WINGS can be upgraded to a ROBIN PRECISION system for projects requiring greater accuracy. ROBIN PRECISION features a fibre optic IMU making it more suitable for detailed topographic surveys, city modelling and construction or mining environments where GNSS conditions are challenging.

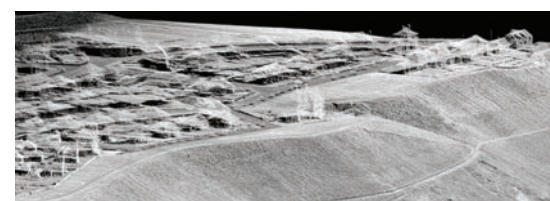


WHAT TO EXPECT FROM 3D LASER MAPPING:

Industry Leading Systems Integration

Standard & Advanced Training at Your Location - incl ROBIN set up, data capture, processing including Terrasolid software training

Unrivalled Technical Support: Online, Email & Telephone



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