



## 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**

## 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                 |



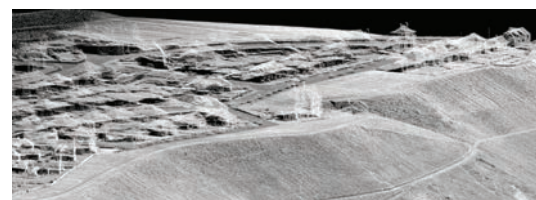
## MEASUREMENT PRINCIPLES

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.

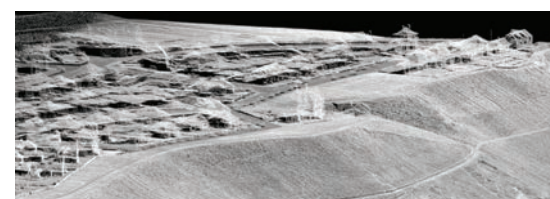


## WHAT TO EXPECT FROM 3D LASER MAPPING:

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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