

VELLUSX • VERSATILE PRECISION

# VellusX

ULTRA LOW DRIFT | COLOURISED | MOBILE | ACCURATE

## The world's most accurate SLAM mapping system.

A compact, lightweight sensor pack that fuses WildcatSLAM odometry with RTK-GPS. Walk it, drive it, or place it on a robot to capture survey-grade colourised maps over long distances and across GPS-denied environments.

VellusX is the only available SLAM solution to produce globally accurate maps using **PPK GPS**: download base-station RINEX files to retrospectively realign SLAM maps on-device in a seamless workflow — no survey control required to guarantee mobile SLAM accuracy. Travel at driving speeds to capture city-scapes, urban streetscapes, and large outdoor environments in dense, full-colour detail.


**4K**

 360° VIDEO  
 COLOURISATION

**RTK/PPK**

GPS FUSION

**1.8M**

POINTS PER SECOND

**300m**

LIDAR RANGE

### CAPABILITIES

## Large-scale, globally accurate scans in minutes

#### RTK and PPK GPS fusion

Combines GPS receivers with WildcatSLAM odometry to keep global accuracy intact when satellites disappear.

#### 360° 4K colourisation

Hardware-synchronised cameras paint every point with true colour — no post-alignment guesswork.

#### GPS-denied transitions

Walk from rooftop to basement to street without restarting. The map stays coherent the whole way.

#### Cloud streaming

Captures flow straight to OrbisFuse for processing, sharing, and measurement.

#### Walk or drive

Mount it on a vehicle, a backpack, or an autonomous platform. The pipeline adapts to the speed.

#### Lightweight & rugged

Built for long days outdoors. Waterproofed, balanced, and field-serviceable.

### Powered by **Wildcat SLAM**

Built with CSIRO's prize-winning **WildcatSLAM** odometry engine and vigorously tested across a wide variety of survey applications. An automatic processing pipeline adjusts sensor weights to maintain global accuracy, seamlessly transitioning between GPS-available and GPS-denied spaces to create sharp, accurate 3D maps.

**SENSOR SPECIFICATIONS**

LIDAR	Rotating Hesai XT32-M2X
RANGE	300 m
LOCAL RESOLUTION	10 mm
POINTS / SECOND	1,800,000 (triple return mode)
FIELD OF VIEW	360°
CAMERAS	4K colour cameras, 360° coverage
GPS	800-channel RTK and PPK receiver
OPERATION	Real-time
FILE TYPE	LAS or PLY
IP RATING	IP64
WEIGHT	3.7 kg
POWER	12–36 V DC

**TERMINAL SPECIFICATIONS**

SIZE	11.6" Full HD 1080p
INTERFACE	Touch screen
CPU	8-core ARM 64-bit
GRAPHICS	512-core Volta GPU
RAM	32 GB
SSD	2 TB
WIFI	802.11 a/b/g/n
POWER	12–42 V DC



• VEHICLE-MOUNTED CAPTURE AT DRIVING SPEEDS



• LARGE-SCALE COLOURISED SCAN – CAPTURED IN 40 MINUTES

01

**Capture**

Power on, start moving. VellusX records LiDAR, IMU, 4K video, and RTK-GPS in lock-step.

02

**Process**

On-device WildcatSLAM produces a colourised point cloud. No manual targeting or registration.

03

**Deliver**

Stream the .las or .ply to OrbisFuse, share with stakeholders, measure in the browser.

**APPLICATIONS**

• Road scanning

• Plant digitization

• Building documentation

• Underground mapping

• Shaft inspection

• AEC

**SALES**

sales@automap.io  
0438 753 678

**OFFICE**

14 Simpsons Rd  
Bardon QLD 4065, Australia

**ECOSYSTEM**

Pair with **OrbisFuse** for cloud processing & sharing,  
or **TerrusM** for harsh underground environments.

