HERON® LITE Color

HERON LITE Color is a handheld 3D mapping system composed of a laser sensor for 3D geometry acquisition, and an RGB 5K panoramic camera for on-demand images collection. Perfect for indoor buildings acquisition, stockpiles volumetric computation, geospatial projects and digital twin approach. HERON LITE Color is provided with a complete software package to manage the entire data processing workflow.

HERON family

INDOOR/OUTDOOR
Wearable or handheld mobile laser scanner. Versatile and suitable for any environment.
Your unmatched SLAM-based solution!

AUTOMATIC
Turn on the system and start surveying. Just walk and leave the scanner working for you.
Enjoy a professional system easy-to-use!

COMPLETE DATA
3D point clouds and 5k pano images to gather both geometry and color information at once.
The scanner you can no longer give up!

ALL-IN-ONE
Full post-processing software included. Third-party compatibility provided.
A forefront technology at your fingertips!

| www.gexcel.it | sales@gexcel.it

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USABILITY

- RGB data acquisition: on-demand at 5K for very detailed images when requested.
- Easy use of control points.
- Loop closure and initialization procedure not required.
- Hand-held design.
- Capture head dockable also to a light rugged backpack or vehicles like cars, bikes, quads...
- Rugged touch screen Control Unit that also provides:
  - Annotations.
  - Real-time view of the point cloud generation and the acquired panoramic images.
  - Hands-free configuration.

DATA PROCESSING

- Accurate 3D colorized models.
- Automatic mapping of color data on 3D model.
- Point cloud rendering with multiple color layers.
- Direct export of images and 3D data to ReCap Pro.
- Easy data export to third-party software (like 3DM Feature Extraction, EdgeWise, Micromine, Scene, Verity) and cloud platforms (e.g. 3DM Cloud, 3DUserNet, Cintoo Cloud, Scene Webshare) through the .e57 format.
- Advanced point cloud rendering which emphasizes features and details.
- 3D models navigation tools.

APPLICATIONS

Indoors | Stockpiles | Single Floor Acqusition | Cadastral Survey | BIM Models | Forensic | Real Estate Assets Management | Cultural Heritage | Geospatial | Forests | Digital Twin | Urban Areas | Outdoors (with geometry) | Fast and sharable Plan Views | Multi-sensor Projects

INCLUDED SOFTWARE

What you need to create and navigate 3D models and share results

HERON Desktop®

Post-processing SLAM software

To manage HERON raw data and automatically get accurate 3D point cloud models using a patented SLAM algorithm; split and merge survey trajectories and filter moving objects. Advanced mode to customize SLAM parameters. Use of GNSS coordinates for geolocalization.

Reconstructor®

Advanced 3D point cloud analysis software

Complete post-processing workflow for data from HERON or tripod/handheld/mobile sensors and UAV 3D point clouds. Powerful automatic target-less scans registration. Data export in several standard formats. Full compatibility with several third-party software and cloud platforms. Point cloud editing, color camera calibration, mesh and DTM generation, volume/cut&fill volume calculations, cross-sections and profiles extraction.

GoBlueprint®

Free tool for 2.5D maps

A user-friendly viewer of X-ray 2.5D scaled images (obteined with Reconstructor), designed to quickly share models with final clients letting them easily measure distances, areas, volumes. It runs on any Windows-based tablet or pc.

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HERON® LITE Color

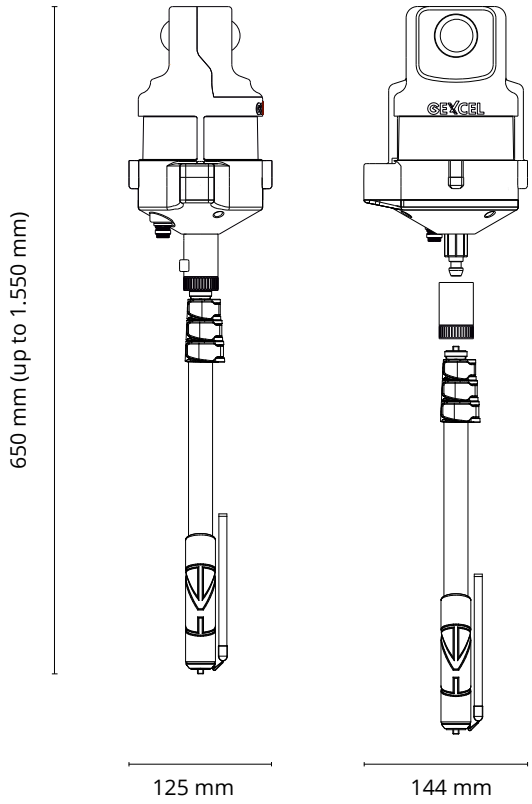
Product Specifications

MAIN FEATURES

Suitable environment	indoor/outdoor
Handheld	yes
Wearable	yes (optional add-on)
Mountable on various mobile platforms (car, trolley, bike, quad, boat)	yes
No limits SLAM post-processing software included (HERON Desktop)	yes
3D point cloud advanced processing software included (Reconstructor)	yes
Free software for x-ray maps visualization and measuring included (GoBlueprint)	yes
Output data	.e57, .las, .ply, export to ReCap
Points per second	300.000
Local accuracy	~ 3 cm
Max survey resolution	~ 2 cm
Global accuracy	~ 5 cm in short close rings (1)
Control points	yes (optional add-on)
Global accuracy with control points	~ 3 cm
Loop closure	not mandatory
Working in every light conditions	yes
Initialization and calibration procedures	not required
Single operator	yes
System working hours (in continuous acquisition)	~ 3 h
Real-time 3D point cloud visualization	yes
Operating temperature	-10° ; +45°
Storage temperature	-40° ; +60°
Rugged transport case	yes

RUGGED TOUCHSCREEN CONTROL UNIT

Processor	Intel® Core™ i7
Weight	1200 g
Dimension	277 x 195 x 24 mm
Storage and Memory	256 GB
Protection index	IP65
Shoulder harness	282 g
Display	10.1" IPS TFT LCD WUXGA
Capacitive	Multi-touch screen
Sunlight readable technology	1000 nits LumiBond®
Power	Li-ion smart battery
Battery working hours	~ 1 h 30 m



CAPTURE HEAD

Laser sensor brand and type	Velodyne Puck
No. of sensors	1
Laser safety classification	class 1
Laser wave length	903 nm
Laser max range	80-100 m
FOV	360° x 360° (2)
Panoramic camera	1
IMU	yes
Weight	1165 g
Dimension	125 x 144 x 240 mm

PANORAMIC CAMERA

On demand image acquisition at 5K (5640x2820 pixel)	yes
FOV	360° x 360°
Depth of focus	from 40 cm to ∞
Focal length	35 mm ≡ 1.036 mm
Automatic color and light balance	yes
Automatic exposure control	yes

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Product Specifications

HANDHELD POLE

Weight (pole and cables)	965 g
Dimension	from 40 to 130 cm

SYSTEM BATTERY

Model	Lithium Iion 12V 4Ah
Weight	410 g
Dimension	22 x 176 x 78 mm
Belt with battery holder	yes

OPTIONAL TOOLKITS

Telescopic pole with cables (from 56 to 180 cm | 1000 g)
Car mount
Rugged backpack (500 x 370 x 190 mm | 4280 g)
Rugged backpack *Plus* (540 x 400 x 220 mm | 5000 g | wired)
Ring LED Light (4000 lumen | 36 W | 700 g)
High capacity battery for Control Unit (3 hours)

SOFTWARE EQUIPMENT

Reconstructor	included
Reconstructor HERON add-on	included
3D navigation of point clouds and images	yes
Automatic scans registration	yes
Direct data import	.laz, .e57, .fls, .zfs, .rxp, .3dd, .x3s, .x3m, .clr, .cl3, .dp, .ixf, .nctri, .txt, .las, .ptx, .pts, .ptg, .asc, .ply, .csv, DEM Ascii
Point cloud filtering, managing and classifying	yes
Import .ifc BIM format	yes
Import terrestrial laser scanner data	yes
Import point clouds from UAV	yes
Import mobile mapping data	yes
CAD/Mesh models	.ifc, .obj, .dxf, .stl, .txt, .wrl, .vrml, .ply, .mvx, .dae
Export to ReCap Pro	yes
Cross sections and profiles (.dxf)	yes
Orthophotos & x-ray orthophotos (direct export to AutoCAD)	yes
Volumes and areas computation	yes
Mesh creation and manipulation	yes
Verification tool	yes

HERON Desktop	included
Drift effect reducing (global optimization)	yes
3D local maps patented algorithm	yes
Large coordinates for geolocalization	yes
Split/merge trajectories and point clouds	yes
Automatic post-processing mode	yes
Noise cleaning (attenuation)	yes
Moving objects removing	yes

GoBlueprint	free software
Volume calculation based on x-ray map	yes
Measures on x-ray maps (linear, angular, area)	yes
Onsite 2D map navigation (Windows-based pc/tablet compatibility)	yes
Deliverables easy to manage and share	yes

HERON Constraints add-on	optional
Reconstructor MINING add-on	optional
Reconstructor COLOR add-on	optional
Reconstructor 3D Viewer	free tool
ClearEdge3D EdgeWise	optional
ClearEdge3D Verity & Rithm	optional
3DUserNetVISION (discount rates available)	optional
Cintoo Cloud	optional

(1) The global accuracy depends on the effectiveness of the SLAM registration algorithm, which can be influenced by the geometry of the surveyed environment. Long trajectories in absence of loop closures and cross paths, as narrow tunnels or narrow stairs, can downgrade the global accuracy to 20-50 cm. The patented and unique algorithms present in HERON Desktop and the use of control points or control scans as constraints can dramatically improve the quality of the sensor accuracy up to 2cm. The Gexcel support team is always ready to provide you with more detailed information on this topic.

(2) FOV guaranteed by walking with the system (nominal sensor FOV - horiz. 360° | vert. +15 ; -15°).