



HERON[®]

WEARABLE 3D MOBILE MAPPING SYSTEM



OVERVIEW

Beyond Mobile Mapping!

HERON® is the professional indoor/outdoor mobile mapping system able to make your 3D survey activity efficacy and powerful.

Surveying with HERON® is funny and effective!

HERON® is light, portable and easy to use. It doesn't need trolleys, it doesn't require GPS/GNSS sensors or frequent calibration stops, and it is equipped with a powerful control unit. By using a backpack (not indispensable) you make your HERON® experience easy and not tiring.

HERON® can be used almost anywhere (especially where a static scanner is impossible or difficult to use and when you need a quick 3D view of big areas) and it is revolutionary in underground sites.

MAIN INDUSTRIES

FACILITY MANAGEMENT	SECURITY	FAST SURVEY	UNDERGROUND MINES
STOCKPILE	INDUSTRIAL PLANT	NUCLEAR PLANT	FORESTRY
CONSTRUCTION SITES	COSTS EVALUATION	STAIRS	URBAN CANYON

TECHNICAL SPECIFICATIONS

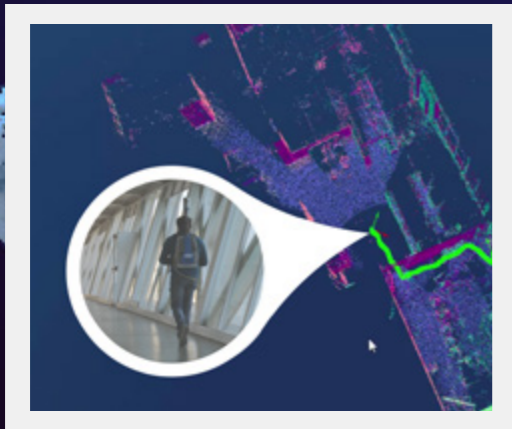
Time of initialization:	~ 30 sec
Working time:	(with one battery) ~ 3 hrs
Working indoor:	YES
Working outdoor:	YES
Real time visualization:	YES
Operating temperature:	- 10°, + 60°
Storage temperature:	-40°, +60°
Output data:	.E57, .las, .ply
Scanning rate:	700.000 points per second
Final global accuracy:	~ 5cm* in short close rings
Local accuracy:	~ 2cm
Final survey resolution:	~ 2cm
Sensor mounting:	Velodyne HDL-32E
Wave length:	903nm
Max Range:	80-100m
Min Range:	1m
Angular FOV (horizontal):	360°
Angular FOV (vertical):	+10.67° ; -30.67°
Laser safety class:	1
Battery:	NiMH 12V 9Ah

*The global accuracy of HERON® is function of the geometry of the surveyed area. Long paths and different working situation can move the accuracy down to 10-20cm



3D MAPPING IN REAL TIME

Visualize in real time the result of your surveying directly on the control unit



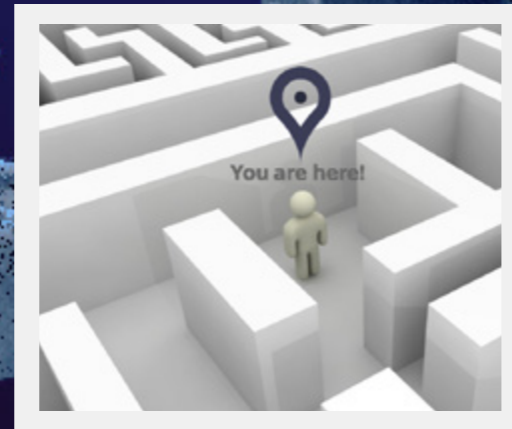
While walking, HERON® captures the reality around you, every five meters the 3D map is subdivided in block of scans. This group of points will be automatically connected consequentially.

With HERON® it is possible to carry on a 3D real time professional surveying and get the best from the SLAM technology.



AUTOMATIC LOCALIZATION

Automatically get your position without using control points or GPS/GNSS



If you already have a 3D model of your site, HERON® will automatically recognize the instrument position.

In this way, you are able to insert your real time mapping activity in the same reference system of your previous (or just surveyed) site model. It is not necessary to place control points, neither get GNSS positions or identify reference features.



REAL TIME CHANGE DETECTION

Check and visualize in real time the differences respect to a previous surveying

More than a 3D mapping system! HERON® is also a clever and powerful monitoring device.

When a site has been already surveyed and you get a 3D map, load it on HERON® and during your new survey you will automatically see the geometric changes highlighted in red on the control unit screen.

This unique function can be used to point out the geometric variations in an industrial site. When the surveyors notice some differences between the “as-built” project and the “as design” status, they can analyse the specific area with a terrestrial laser scanner and easily register the new acquisition on the HERON® point cloud.





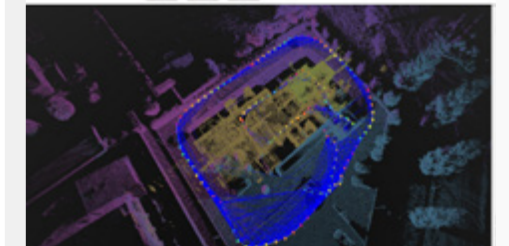
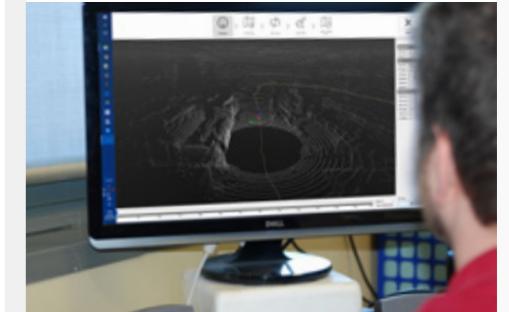
UNIQUE ALGORITHM

Patented approach to reduce the drift effect by a global 3D optimization

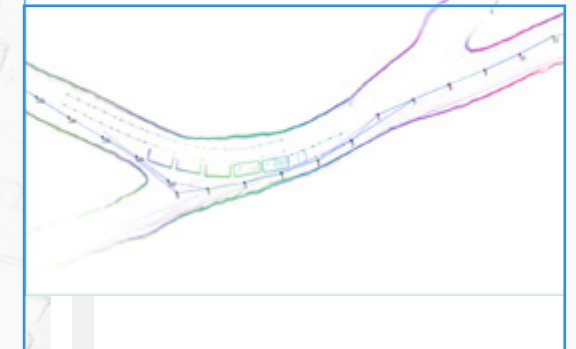
HERON® is a complete solution, composed by an all-in-one hardware and software scanner to immediately acquire 3D reality and minimize the “drift effects” typical of the SLAM process, thanks to the revolutionary post-processing approach (3D blocks adjustment).

HERON® Desktop software capabilities:

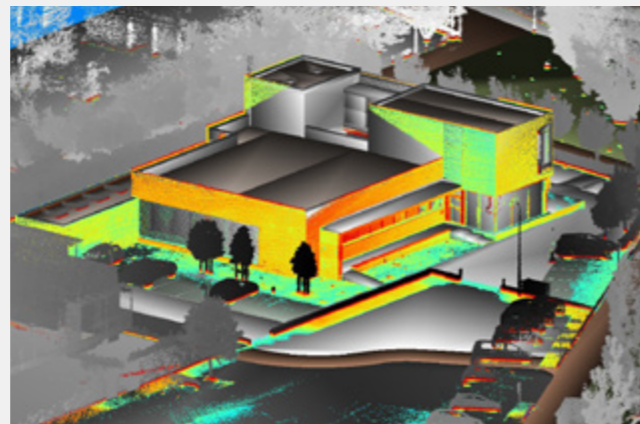
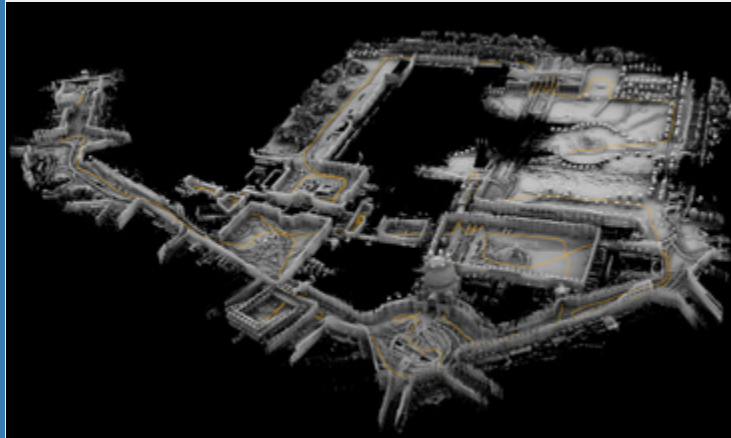
- VISUALIZE & PROCESS THE ACQUIRED DATA
- MINIMIZE THE TRAJECTORY DRIFT
- OPTIMIZE THE 3D SCANS
- CLOSE LOOP
- CLEAN THE DATA
- EXPORT SINGLE MAPS OR THE FINAL POINT CLOUD MODEL (.E57, .LAS, .PLY)
- GET REFERENCE MAPS
- EXTRACT 2D MAPS (BLUEPRINT)
- EASILY GO TO JRC 3D RECONSTRUCTOR® SOFTWARE FOR RESULTS AND DEEPER DATA ANALYSIS



BEFORE



This picture shows an example of the HERON® global optimization effect. In the background a blueprint 2D map.



Designed on your survey needs

The HERON® backpack solution is available in four configurations. Each model presents the same capabilities but is specifically developed to survey in different industries and conditions.

The *Color* version is available both for AC-1 and MS-1 models.



HERON® AC-1

6kg weight, for fast and professional 3D survey of indoor/outdoor big area



HERON® MS-1

11kg weight, the rugged configuration for humid, dusty or difficult conditions



HERON® *COLOR*

Panoramic camera integration for facility management and more tasks

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