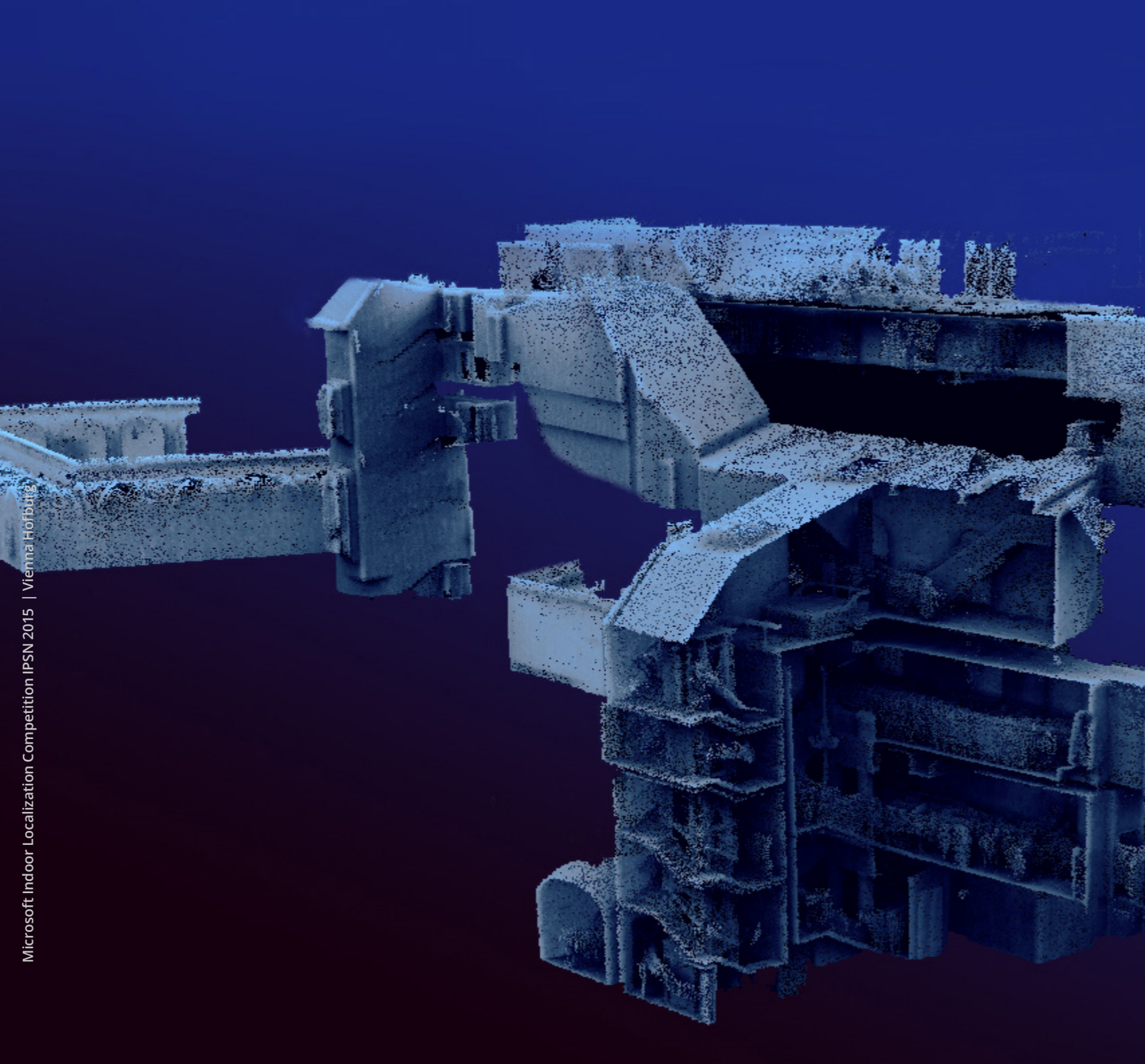


HERON®

WEARABLE . PROFESSIONAL . POWERFUL



OVERVIEW

Beyond Mobile Mapping!

HERON® is the professional indoor/outdoor wearable 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.



WEARABLE MOBILE MAPPING

Designed on your survey needs

The HERON® backpack solution is available in four models, specifically developed to survey in different industries and conditions. The Color configuration is available both for AC-2 and MS-2 models.

MAIN INDUSTRIES

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

HERON® AC-2

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

HERON® MS-2

11 kg weight in a rugged configuration for difficult conditions.

HERON® COLOR

Hi-Res panoramic camera integration for facility management and more.

HERON® LITE

The professional, versatile and affordable handheld model.



3D MAPPING IN REAL TIME

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

AC-2 / MS-2 AC-2 / MS-2 Color LITE

With HERON® you visualize your 3D mapping directly while walking. This delivers you 3D real-time professional surveying experience, augmented by cutting-edge SLAM technology.

The wearable backpack gives you a very comfortable, easy and not tiring HERON® experience. But, if you prefer, you can also carry out your survey holding HERON® in your hands, or fixing it to your car, without losing performance.



Trajectory visualized in real-time on the HERON® control unit



AUTOMATIC LOCALIZATION

Automatically localize yourself without using control points or GPS/GNSS

AC-2 / MS-2 AC-2 / MS-2 Color LITE

HERON® can use a point cloud or a BIM model of your site as a reference map to automatically recognize its position, allowing you to re-start your surveying at any time, or to start a change detection activity with respect to a former survey.

After loading your reference model on HERON®, your real-time mapping survey will be automatically inserted in the same reference system of your previously surveyed model and, once on the field, you should just start walking.

The HERON® automatic localization function does not require to place control points, neither get GNSS positions or identify reference features... An incredibly smart and easy way to work!





REAL TIME CHANGE DETECTION

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

AC-2 / MS-2 AC-2 / MS-2 Color LITE

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

If you have a point cloud or a BIM model of your site, just load it on HERON® and start a new survey. You will automatically see the changes of the ongoing survey with respect to the previous one highlighted in red on the control unit screen.

This unique function can be applied for several purposes, i.e. to point out geometric variations, for security planning, space control of big areas for logistic needs, "as built/as designed" BIM check, and more. And always working in real-time, obtaining the results on site, therefore dramatically reducing costs and time!

And if you see that a specific area needs a more detailed scan, a tripod laser scanner survey can be made and automatically registered on the HERON® point cloud.



watch the video



UNIQUE ALGORITHM

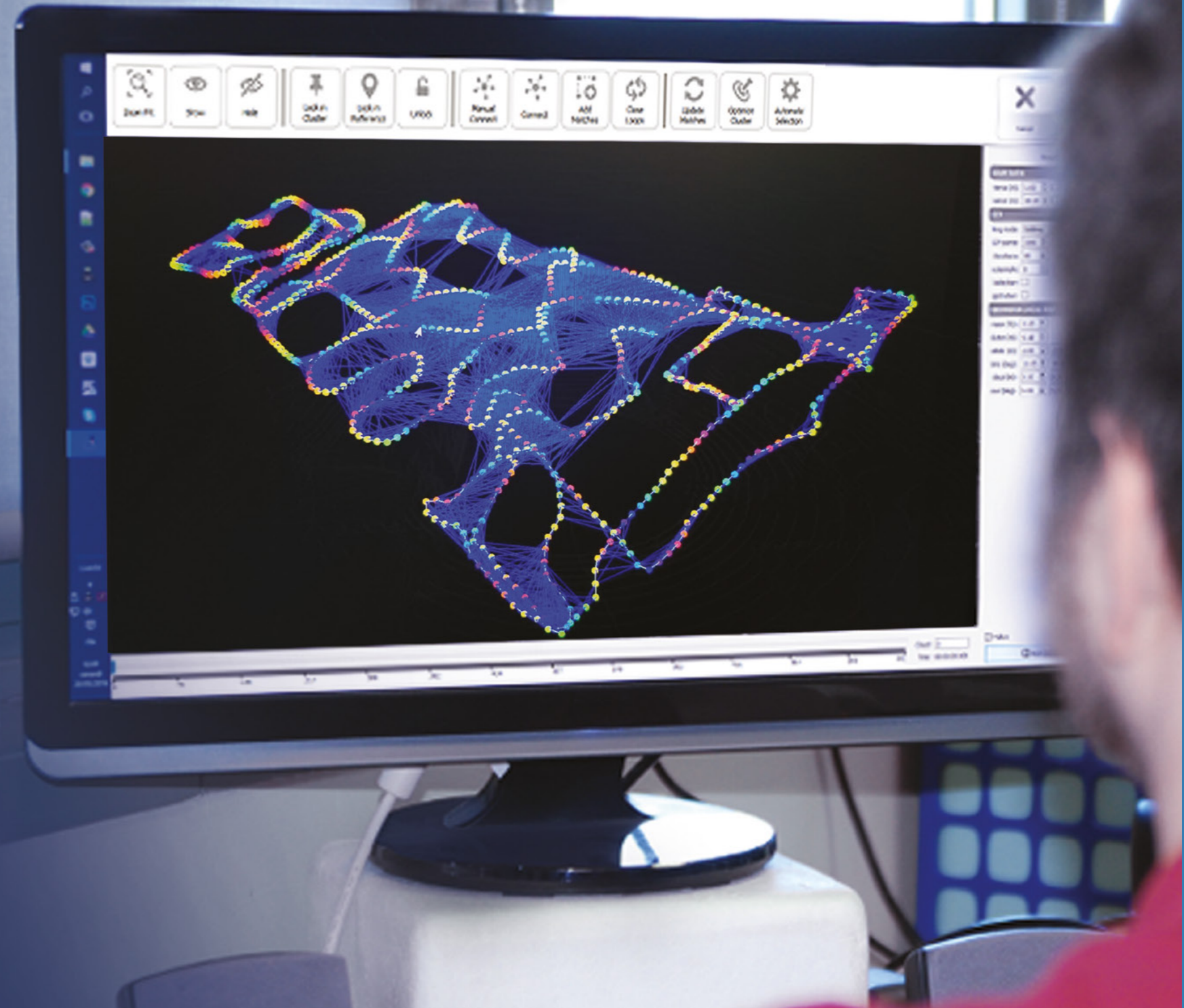
Patented approach to reduce the drift effect through a global 3D optimization

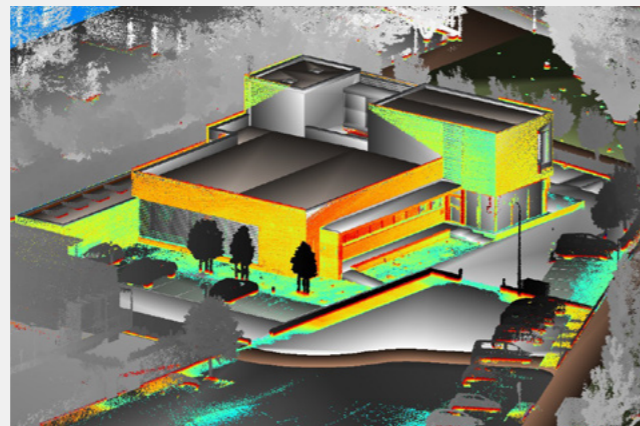
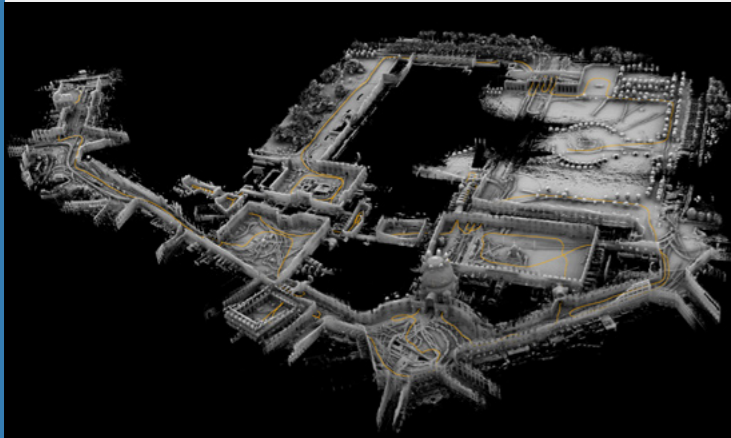
AC-2 / MS-2 AC-2 / MS-2 Color LITE

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.

HERON® Desktop software capabilities:

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





TECHNICAL SPECIFICATIONS

	AC-2	AC-2 Color	MS-2	MS-2 Color	LITE
Weight (Control Unit excluded)	6 Kg	6.25 Kg	11 Kg	11.25 Kg	2.5 Kg
Weight of Control Unit	1.4 Kg				1.4 Kg
Time of initialization	~ 30 sec				~ 15 sec
Working time (1 batt./continuous use)	~ 3 hrs	~ 2 hrs	~ 3 hrs	~ 2 hrs	~ 6/8 hrs
Indoors/Outdoors usage	Yes				Yes
Real-time visualization	Yes				Yes
Operating temperature	-10°;+60°	-10°;+40°	-10°;+60°	-10°;+40°	-10°;+60°
Output data	e57, las, ply				e57, las, ply
Scanning rate	700.000 points/sec				300.000 points/sec
Final global accuracy*	~ 5 cm				~ 5 cm
Local accuracy	~ 2 cm				~ 3 cm
Final survey resolution	~ 2 cm				~ 3 cm
LiDAR sensor (safety class 1)	Velodyne HDL-32E				Velodyne Puck LITE
Wave length	903 nm				903 nm
Max range	80-100 m				100 m
Angular FOV	horiz.360° vert. +10.67° ; -30.67°				horiz. 360° vert. +15° ; -15°
Battery	NiMH 12V 9Ah				Li-polymer 12V 4.5Ah

PANORAMIC CAMERA mounted on AC-1 Color and MS-1 Color

Resolution	Full HD	35 mm equivalent focal length	1.036 mm
Max frame rate	60 FPS	Depth of focus	40 cm to ∞
Horizontal and Vertical FOV	360°	Automatic color and light balance	Yes
Interface	USB 3.0	Automatic exposure control	Yes

*Global accuracy depends on the effectiveness of the SLAM registration algorithm, which can be influenced by the geometry of the surveyed data. Long paths in absence of loop closures and cross passes, and different conditions as narrow tunnels and stairs, can downgrade the global accuracy to 20 - 50 cm, partially or fully improvable using the advanced control parameters available in the HERON® Desktop software. Ask to Gexcel support team for more detailed information on how to get the best results from your HERON® instrument.

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