LABORATORY: CNR-ISPC

NAME OF THE INSTRUMENT

Simultaneous Localisation And Mapping (SLAM) surveys

GENERAL DESCRIPTION

Instrument for 3D data acquisition (point cloud creation) using the SLAM (Simultaneous Localization and Mapping) technique. The instrument allows the survey of large man-made and natural spaces by means of dynamic acquisition along a path; this is possible thanks to the availability of the IMU (Inertial Measurement Unit) sensor inside the device. The device consists of several parts: a LiDAR profilometer connected to the IMU system, for the acquisition of information, and a data logger for data storage and pre-processing.

The configuration proposes a 360 camera (Zeb Vision) for the enrichment of the data with RGB values, while the pre-processing of the data within the Data Logger allows an initial visualisation of the cloud (RT) on mobile devices (e.g. smartphone).

The centimetric accuracy (1-2 cm) and the maximum range of 100 m make the data produced particularly suitable as a topographical base on which to set up a 3D modelling process (geometric or HBIM) for architecture.

TECHNICAL DETAILS

GeoSLAM ZEB HORIZON RT

Range = 100m

FOV = 360° x 270°

Laser = Class 1 / λ 903nm

Protection class = IP 54

Processing = Post

Datalogger carrier = Backpack or shoulder strap

Scanner weight = 1.45kg

Datalogger weight (incl. battery) = 1.4kg

Scanner points per second = 300,000

No. of sensors = 16

Relative accuracy = Up to 6mm**

Vertical angular resolution = 2°

Raw data file size = 100-200MB /minute

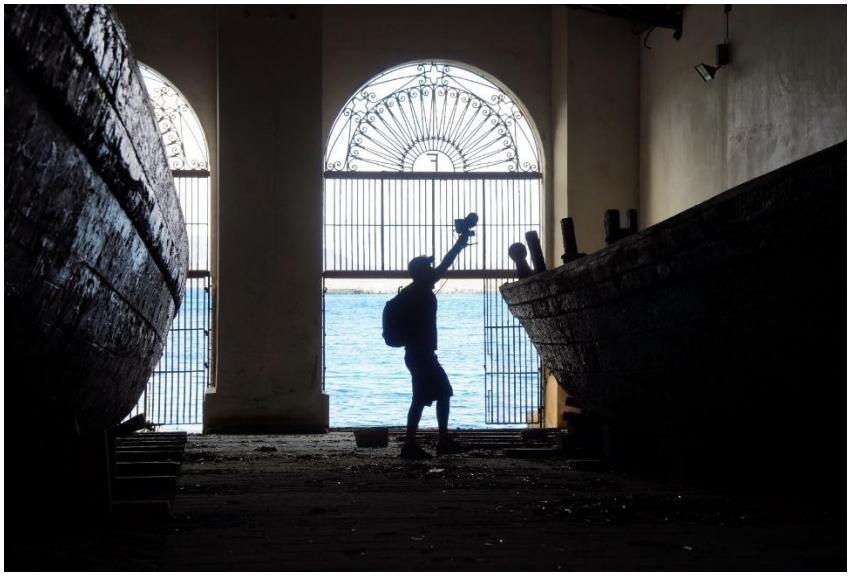
Horizontal angular resolution = 0.38°

Colourised point cloud* =yes

Intensity = yes

*With ZEB Vision

**When processing data in GeoSLAM Connect V2



SLAM SURVEY OF THE TRIZZANA OF THE FORMER FLORIO PLANT IN FAVIGNANA

GEOSLAM ZEB HORIZON RT WITH ZEBVISION

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