

SLAM LASER SCANNER  
CATALOG 2025

[stonex.it](https://stonex.it)

# SLAM

**Stonex offers a wide range of SLAM products, capable of generating high-precision point cloud data. All the devices are equipped with LiDAR a camera for texture information along with an inertial navigation module.**

The integrated structure includes storage system and built-in replaceable batteries. Mapping results are visible in real time from the GOapp. GOpost can perform post-processing of collected data, generate high precision colored point clouds, produce panoramic images and integrate GNSS data. The uniqueness of Stonex SLAMs is in the stability and strength of the algorithm, which is able to reconstruct complex scenarios that are not trivial for this type of technology.



## RAPIDITY AND REDUCED WORKLOAD

No more multiple scan station, just move around the scene to collect the entire 3D point cloud, without time consuming cloud to cloud alignment.



## REAL TIME PREVIEW

See your scanning progress in real time using the dedicated Android App directly in the field. X70<sup>GO</sup> and X200<sup>GO</sup> also provide a real-time view of the coloured cloud.



## AUTOMATIC CONTROL POINT MEASUREMENT

When capturing data, the device is able to collect reference points too. They can be matched with known control points to georeference or compensate the scans, or to check the final quality of your survey.



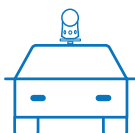
## STRONG ALGORITHM, RELIABLE DELIVERABLE

Data processing can be done in a few clicks, obtaining the best result for the situation, even processing batches of scans. In the case of special environments, the processing parameters can be edited to maximise the quality.



## GEOTAG COLLECTION

Directly in the field you have the possibility to take pictures or add notes related to your position. Those information will be available and consultable inside the point cloud.



## WIDE RANGE OF ACCESSORIES

Stonex SLAMs are equipped with a very interesting range of accessories, which facilitate its use in the field and cover different scenarios. Backpack, shoulders hook or vehicle mount platforms allow to cover long trajectory effortlessly.



#### X-WHIZZ MODE

X70<sup>GO</sup> and X200<sup>GO</sup> models merge mobile and stationary surveying. The advantageous SLAM solution that allows you to survey large areas in a very short time, they combine a stationary mode to scan with higher resolution. Mount the device on a monopod and stand still in key areas for a few seconds. It is the perfect trade-off for those who need speed and detail in a mobile survey.



##### X200<sup>GO</sup>

The rotating head has 32-channel sensor with 300 meters range and 3 returns. Embedded GNSS board and two 12 Mpx cameras, which provide texture information and panoramic images. Colour information is available in real-time and mapped results are generated immediately inside the scanner: choose if you want to improve their accuracy postprocessing with GOpost software. The high precision IMU makes the product versatile, even for use on UAV drone.



##### X120<sup>GO</sup>

The system has a rotating LiDAR head with a 16-channel sensor and a range of 120 metres, with 360°x270° point cloud coverage. Equipped with three 5Mpx cameras to generate a 200° FOV horizontal and 100° FOV vertical, capable of synchronously obtaining texture information and producing colour point clouds and partial panoramic images.



##### X70<sup>GO</sup>

It integrates a 360° rotation head with 70-meters range LiDAR, a 12 MPx visible-light camera which provides texture information, and a visual camera that guarantees stronger real time preview with GOapp. Mapping results are generated immediately inside the scanner, right after scanning: choose if you want to colour them and improve their accuracy, postprocessing with GOpost software.



##### X40<sup>GO</sup>

Equipped with the same sensor as the X70<sup>GO</sup>, the lidar does not have a rotating head but its orientation is designed to maximise coverage. The 12 Mpx camera has a wide FOV for point cloud colouring. An affordable and simple product, the ideal for interior surveys and layout generation.

## SIMULTANEOUS LOCALIZATION AND MAPPING

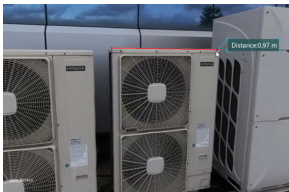
STONEX SLAM technology delivers more range, more points per second and best in class on board processing algorithms to reach unmatched speed of capture and reliability even in the more demanding environments.

### APPLICATION



#### BIM & REAL ESTATE

Gather a complete 3D model of civil or industrial structures with a simple walk-through, from which your project deliverables will be effortlessly extracted.



#### FACILITY MANAGEMENT

Document any information, exploiting the panorama images, the X-Whizz mode or the geotag function with pictures of details or annotations.

#### TANK INSPECTION

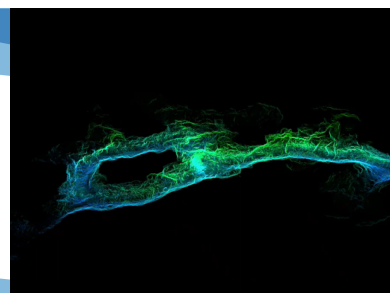
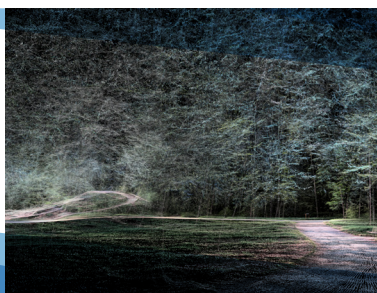
Quickly and safely generate data for tank analysis, documenting verticality, roundness, integrity and deformations.

#### FORESTRY

Document the state of forests to know the positions of trees, the size of trunks or to quantify the vegetation cover.

#### TUNNEL & CAVE

Even extreme environments underground can be detected, processing tunnel scans with a dedicated algorithm.



## PROCESS YOUR DATA AS YOU WISH

Collect and process your data thanks to Stonex solutions. Thanks to the bundled software it is possible to acquire data easily and carry out basic post-processing operations. For those who need to carry out complex operations it is possible to use Cube-3d

### BUNDLED SOFTWARE



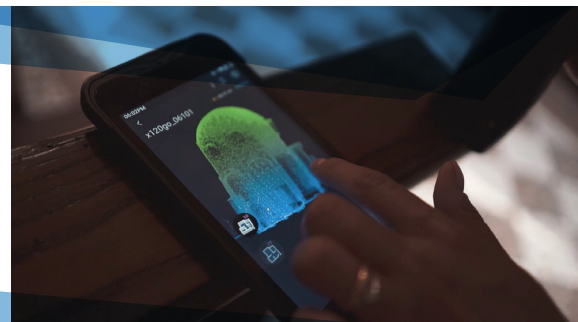
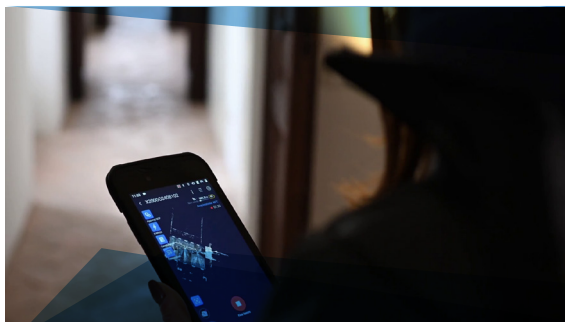
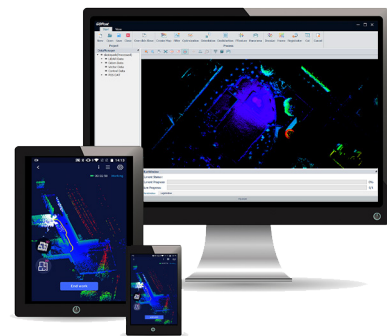
#### GOapp

GOapp is a dedicated mobile application for Stonex SLAM scanners, to manage projects, real time point cloud display, image preview, firmware upgrade and other operations. The APP runs on Android and iOS operating system.



#### GOpost

Windows post processing software which performs optimization processing, colouring of point clouds and creation of panoramic images. You can also import control points to georeference the point cloud.



## 3D SOFTWARE



### Cube-3d

Cube-3d is a complete software for 3D data management, built by two modules for photogrammetry and for scanner data. The former processes images (or videos) to generate accurate digital maps and 3D models with extreme precision; the latter provides tools to align point clouds.



### PointCab

Thanks to the collaboration between Stonex and PointCab, you can manage your point clouds with it. PointCab Origins is your Swiss army knife when it comes to the evaluation of point cloud data – working with all laser scanners and compatible with all CAD and BIM systems.



### Aplitop

Thanks to the collaboration between Stonex and aplitop, you can try this powerful software with our Laser Scanners.

- Imports clouds from standard formats and represents them by attributes such as color, intensity, category, etc.
- Import images from E57 and LGSx files. Easily and intuitively measure and draw on the cloud or 360° image.
- Create profiles in plan and elevation.
- Easily manage geotags.

And much more.



## ACCESSORIES

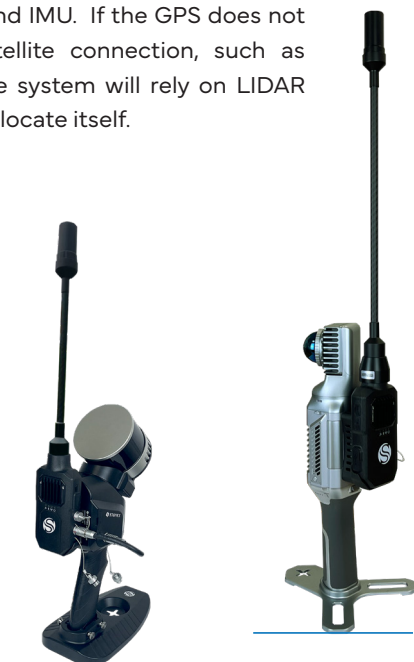
Expand the capabilities of our Lasers with dedicated accessories.

### PLATFORM/EXTENSION

	X40 <sup>GO</sup>	X70 <sup>GO</sup>	X120 <sup>GO</sup>	X200 <sup>GO</sup>
BACKPACK	n/a	√	√	√
RTK MODULE	n/a	√	√	Integrated
PANO CAMERA (INSTA X4 / X5)	√	√	√	√ + integrated
VEHICLE	n/a	n/a	√	√
UAV – DJI M350	n/a	n/a	n/a	√
SR02 RADIO	n/a	n/a	n/a	√

## RTK MODULE

There are several reasons why the RTK module is worth using. First, it places your point cloud in a global coordinate system, but it can also be useful in large surveys to improve the composition of the final 3D model. Indeed, RTK module can help the system, adding GNSS info to LIDAR and IMU. If the GPS does not have a satellite connection, such as indoors, the system will rely on LIDAR and IMU to locate itself.



### RECEIVER

#### Satellite Signals Tracked

#### Fixed RTK (RMS)

#### Data Update Rate

#### Time Accuracy

#### Speed Accuracy (RMS)

#### Modem

### PHYSICAL SPECIFICATION

#### Weight

#### Size

#### Operating Temperature

#### Waterproof/Dustproof

### ANTENNA

#### Size

#### Weight

#### Optional

### POWER SUPPLY

#### Type-C USB

#### Aviation socket

GPS L1, L2

GLONASS L1, L2

GALILEO E1, E5b

BDS B1, B2

Horizontal: 1 cm + 1 ppm

Vertical: 1.5 cm + 1 ppm

20Hz

20ns

0.03 m/s

LTE FDD: B1/B3/B5/B8

LTE TDD: B34/B38/B39/B40/B41

GSM: 900/1800MHz

1.8 Kg

196 mm × 80 mm × 39 mm

-20°C to +50°C (-4°F to 122°F)

IP54

27.5 mm × 56 mm

15.3 g

SA85 for backpack/vehicle mount

20V

12V-20V



## SLAM

## TABLET HOLDER

You can use your tablet docket to the device to have one to have one hand free while surveying. The tablet mounted on the back of the scanner allows you to always have eyes-on scan real time preview.

## PHYSICAL SPECIFICATIONS

Min Width	1,75" (4,44 cm)
Max Width	4,5" (11,43 cm)



## BACKPACK

A solution to mount X70<sup>GO</sup>, X120<sup>GO</sup> or X200<sup>GO</sup> on your back and to combine it with the RTK module. Extended surveys will become a simple walk. In case of X120<sup>GO</sup>, alternative to the option of RTK module is the SC600<sup>+</sup> receiver.



## PHYSICAL SPECIFICATIONS

Material	Nylon, aluminum
Size	250x 250x 1000mm
Weight	1,7kg (frame only)

## CONFIGURATION

X70 <sup>GO</sup> - RTK module - SA85
X120 <sup>GO</sup> - RTK module - SA85
X120 <sup>GO</sup> - SC600 <sup>+</sup> - SA85
X200 <sup>GO</sup> - SA85

SC600<sup>+</sup> RECEIVER

## Satellite signals tracked

## Fixed RTK (RMS)

## Modem

## UHF frequency range

## UHF band width

## UHF max range

GPS: L1C/A, L1C, L2C, L2P, L5

GLONASS: L1, L2, L3

GALILEO: E1, E5a, E5b, E6, ALTBOC

QZSS: L1C/A, L2C, L5

IRNSS: L5

Horizontal: 8mm+1ppm

Vertical: 15mm+1ppm

LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28

LTE TDD: B38/B39/B40/B41

UMTS: B1/B2/B4/B5/B6/B8/B19

GSM: B2/B3/B5/B8

410 - 470 MHz

902.4 - 928 MHz

12.5 KHz / 25 KHz

3-4 km in urban environment

Up to 10km with optimal conditions





## VEHICLE MOUNT

Securely mount your X120<sup>GO</sup> or X200<sup>GO</sup> on a vehicle to collect data on urban environments. Choose between suction cups or magnets and drive up to 20 km/h.



### PHYSICAL SPECIFICATIONS

Frame material

Weight

Size (docking excluded)

Docking mode

Suction cups load

Suction cups operating temperature

Aluminum

6.3 kg

250mm×180mm×660mm

Suction cups or magnets

Horizontal: 60 kg

Vertical: 40 kg

-20°C to +70°C

### POWER

Operating time

Capacity

Voltage

4h

3 Ah

20V-30V

### CONFIGURATIONS

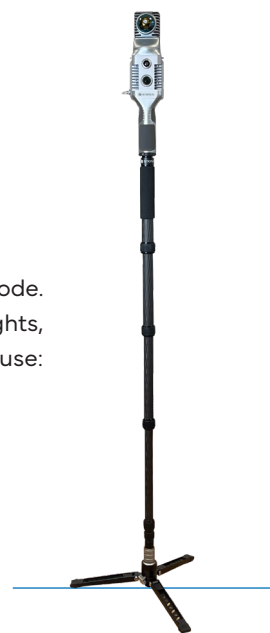
X120GO - RTK module - SA85

X120GO - SC600+ - SA85

X200GO - SA85

## TELESCOPIC POLE

Hold the device on the monopod for a stationary survey in key areas with the X-Whizz mode. The quick-lock swivel system makes the pole quick and easy to extend to different heights, up to a maximum of 1,60 meters. Its handle ensures a firm, ergonomic grip during use: maximum efficiency and comfort are guaranteed.



## UAV MOUNT

Complete the survey from any viewpoint mounting the X200GO on DJI M350.

### COMMUNICATION

Power and RTK supplied by DJI M350

# PANO CAMERA

Enhance your SLAM survey by adding important properties such as the 360° panoramic photography.



## PANO CAMERA SPECIFICATIONS

Model	Insta360 X4/X5
Resolution <sup>1</sup>	16.6 MPx
Operating time	135/185 min
Weight	around 200 g

<sup>1</sup> After processing with GOpost

# SHOULDERS HOOK

Distribute weight of the device over both shoulders, freeing your hands. Adjustable in both height and angle, it is easy to put on and take off.

## PHYSICAL SPECIFICATIONS

System Weight	3.2 kg
Size	300mm x 300mm x 640mm



# SLAM

## PRODUCT COMPARISON



X40<sup>GO</sup>



X70<sup>GO</sup>



X120<sup>GO</sup>



X200<sup>GO</sup>

### LIDAR

Min-Max range	0.1-70 m @80%	0.1-70 m @80%	0.5-120 m	0.5-300 m
Relative accuracy	6mm <sup>1</sup>			
Global accuracy	2cm <sup>1</sup>			
Global acc. on UAV Platform	5cm			
Scanning Point Frequency	200,000 pts/s	200,000 pts/s	320,000 pts/s	640,000 pts/s
FOV	360°H, -7~52°V	360°H, -7~52°V	360° x 270°	360° x 270°

### CAMERA

N° of pixels	12 Mpx	12 Mpx, RGB camera 12 Mpx, Visual camera	15 Mpx (3 cameras, 5 Mpx each)	24 Mpx (2 cameras, 12 MPx each)
Diagonal FOV	210°	210°	200°	210°
Focal length	1.26 mm	1.26 mm	2.05 mm	1.26 mm
Resolution	2704X2288 px	4000X3000 px	2592x1944 px	4000X2000 px

### SYSTEM

Data storage	512GB SSD	512GB SSD	SD card 32GB (Expandable)	512GB SSD
Communication	Wi-fi, USB type-c	Wi-fi, USB type-c, Lemo	Wi-fi, USB type-c, Lemo	Wi-fi, Bluetooth, USB type-c, Lemo

### ELECTRICAL SPECIFICATION

Power consumption	18W	20W	25W	26W
System supply voltage	20V	20V	20-30V	20V
Operating time <sup>2</sup>	1.7 h (single battery)	1.5 h (single battery)	2.5 h (1 battery set)	1.2 h (single battery)
External power	USB type-c			
Battery capacity	3000mAh	3000mAh	3350mAh x4	3000mAh

### PHYSICAL SPECIFICATION

Weight	650 g (without battery)	925 g (without battery)	1.5 kg (without battery)	1.4 kg (without battery)
	1.16 kg (with battery)	1.45 kg (with battery)	1.95 kg (with battery)	1.9 kg (with battery)
Size [mm]	283.8 x 173.8 x 170	364.5 x 173.8 x 170	372 x 163 x 106	403.6 x 173.8 x 170
Operating temperature	-20°C to +50°C (-4°F to 122°F)	-20°C to +50°C (-4°F to 122°F)	-10°C to +45°C (14°F to 113°F)	-20°C to +50°C (-4°F to 122°F)
Operating humidity	<95%	<95%	<85%	<95%
Waterproof/Dustproof	IP54			

1 Environment dependent

2 SLAM only, no external platforms



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