

X120^{GO}_{v2} – Product description

LiDAR

120-meter range | 2 returns | 320k pts/s
640k pts/s

RGB cameras

2 units | 12 Mpx each | 360° FOV

Module extension

External equipment support (e.g. UAV, car)

LED bar

Keep an eye on the status of your device

GNSS
RTK and PPK

Rotating head
360° coverage

SSD storage
512GB built-in SSD storage disk

Dismountable Handle
Replaceable & rechargeable battery handle

GCP base
Collect ground control point while scanning



X120^{GO} – Technical specifications

LiDAR	
Sensor model	Hesai XT16 XT32
Min range	0.5 m
Max range	120 m
Channels	16 32
Returns	2
Scanning point frequency	320.000 640.000
Field of view	360° x 270°
Laser class	1



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X120^{GO} – Technical specifications

Accuracy	
Relative	Up to 6 mm *
Global	Up to 2 cm *
Global on UAV platform	<5 cm *

* In controlled environment

System	
Communication	Wi-fi, Bluetooth, USB type-c, Lemo
Data storage	512GB SSD
Operating time	1.2h (single battery)
Weight	1,6 kg (without battery) 2,1 kg (with battery)
Dimension	403,6 x 173,8 x 170 mm
Operating temperature	-20° C to +50° C (-4° F to 122° F)
Waterproof/Dustproof	IP54



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X120^{GO} – Technical specifications

RGB Camera

Pixels	24 Mpx (2 cameras, 12 Mpx each)
Diagonal FOV	210°
Focal Length	1.26mm
Resolution	4000X1200px

GNSS Receiver

Satellites Signal	GPS: L1C/A/L2P(Y)/L2C/L5 GLONASS: L1/L2 Galileo: G1/G2 BDS: B1I/B2I/B3I QZSS: L1/L2/L5
Fixed RTK (RMS)	Horizontal: 0.8cm+1ppm Vertical: 1.5cm+1ppm
Antenna	Included - SA85 optional



X120^{GO}- X200^{GO}

Key features

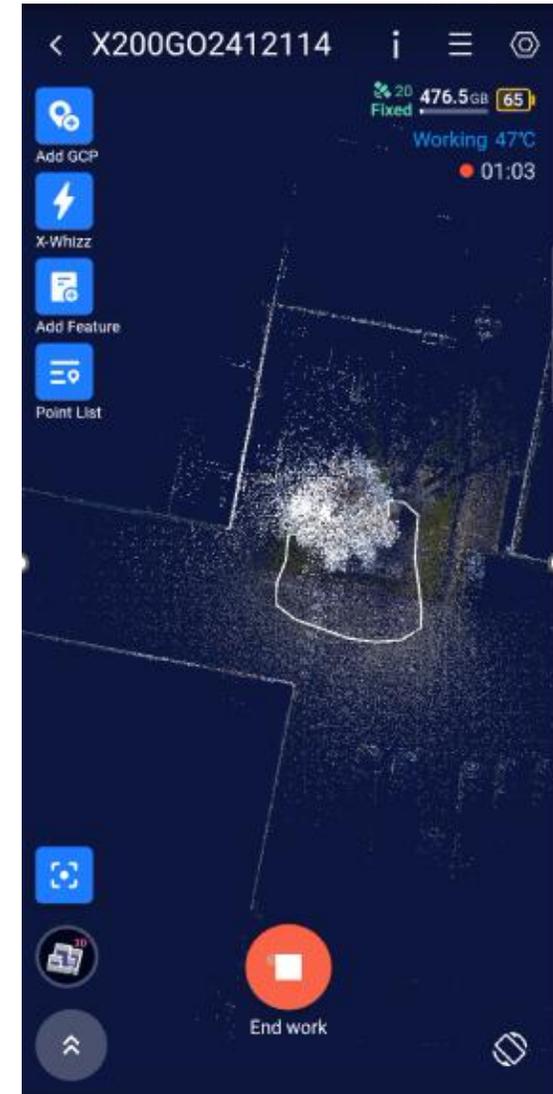


Real time with absolute coordinates



Real time coloring

Mapped and coloured results can also be generated on board.



X120GO- X200GO

Key features



X-Whizz Mode

Combine quick mobile survey with stationary scans, providing denser and higher resolution data.



UAV extension

The long range of the LiDAR adds the possibility of using the sensor on a drone to survey from above and complete the survey from any point of view.



Data ready in the field

The system can directly output the oriented and colored results after the acquisition is completed. Choose to post-process the data, for improving accuracy.

Data capturing



GOapp

Use **GOapp** to see the point cloud in real time, update firmware and manage projects.

The APP runs on Android and iOS devices.



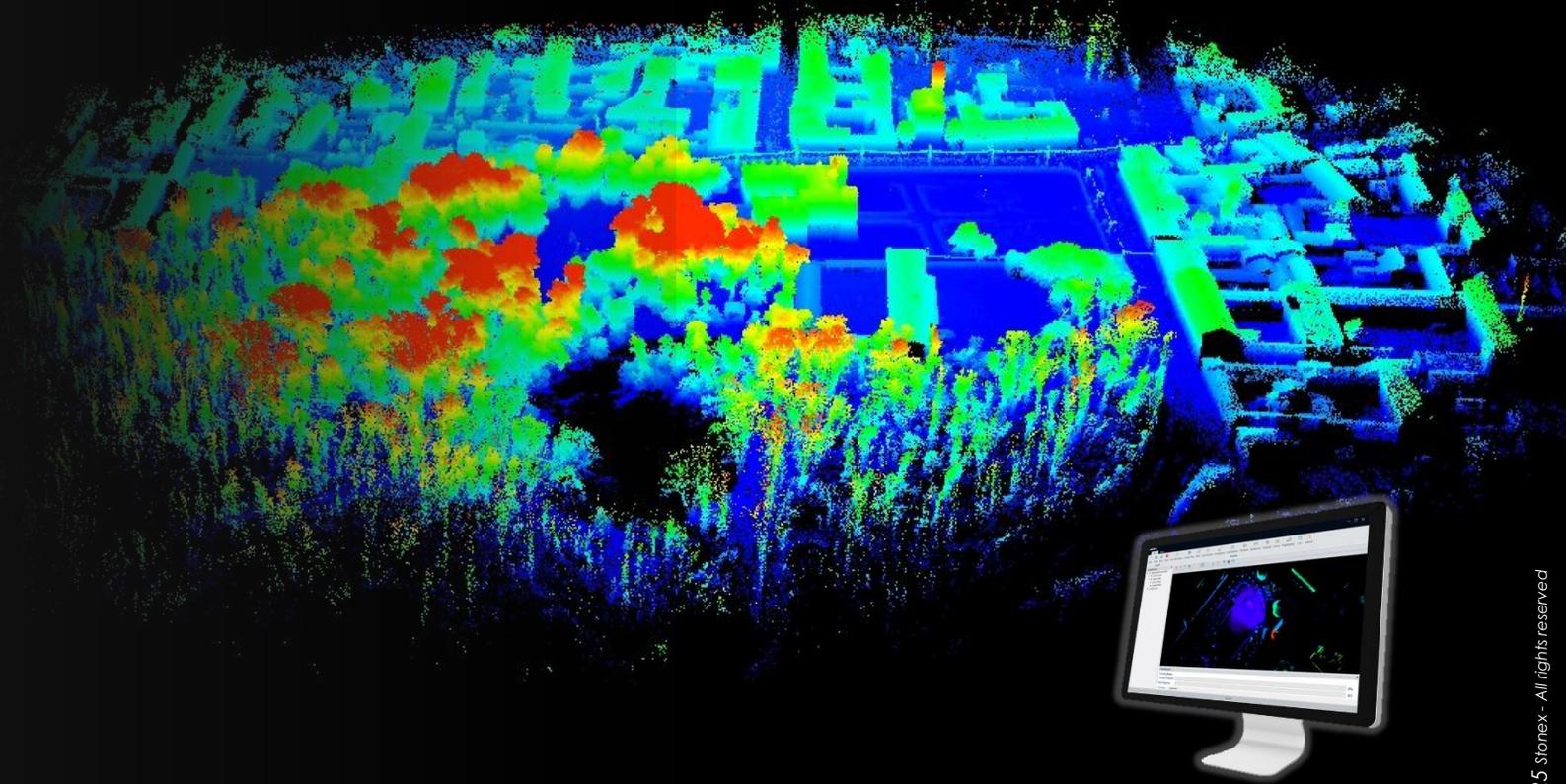
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Data processing

GOpost

Windows post processing software:

- *Optimization processing*
- *Coloring of point clouds*
- *Rototranslation*
- *Elastic compensation on GCP*
- *Accuracy report with check points*
- *Panorama generation*
- *Geotag extraction*



Panoramic images support

Mount Insta360 X4 or X5 on the Stonex SLAM devices to generate spherical images. Overlaid on the point cloud make measurements immediate.

In case of X120^{GO} & X200^{GO}, the two integrated 24 Mpx cameras can be used for the same purpose as well.



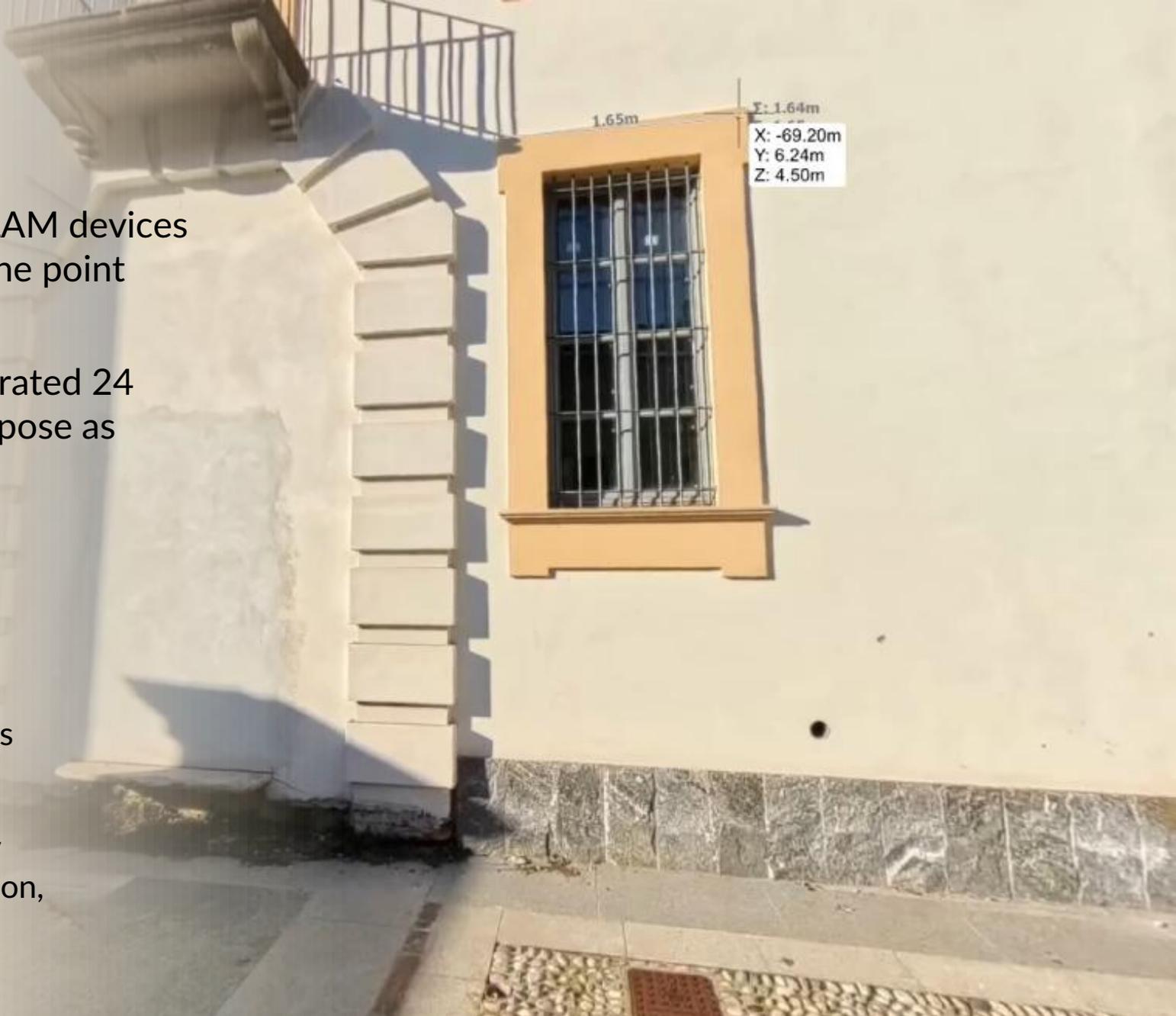
Document every detail with an **immersive and intuitive view**.



Navigate within the 3D scene by moving between capture 'bubbles', as if you were physically on site.



Draw or take measurements directly from the images, simplifying inspection, verification and analysis tasks.



External camera

The integration of high-resolution 360° cameras enables extraordinary result in term of visual quality, introducing the technology of 3DGS.



		X120 ^{GO} / X200 ^{GO} built-in cameras	Insta360 X4/X5 DJI Osmo360
 Point cloud texture	Minor differences		
 Spherical image generation	18MPx	Higher resolution, basing on the camera	
 3D Gaussian Splatting	-	Supported	

Pano camera models supported



Insta360 X4



Insta360 X5

Resolution	8K: 29.5 Mpx 5.7K: 16.6 MPx
Focal length	6.7 mm
Operating time	135 min
Weight	203 g

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3D Gaussian Splatting

Click to navigate
the model



SLAM data representations



SLAM data representations

POINT CLOUD



MESH



3DGS

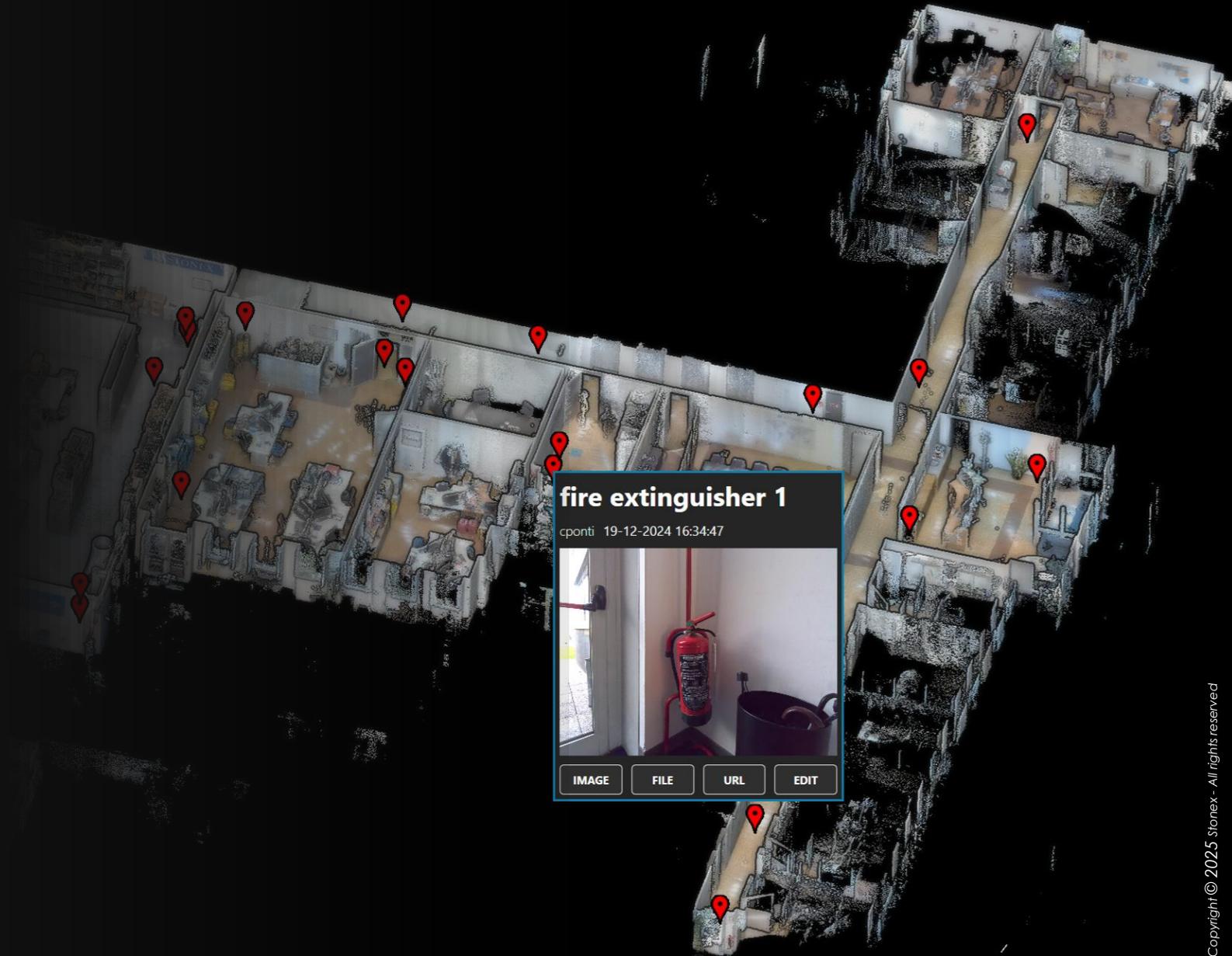


Geotags

With all Stonex SLAM devices, you can collect geotags during your survey.

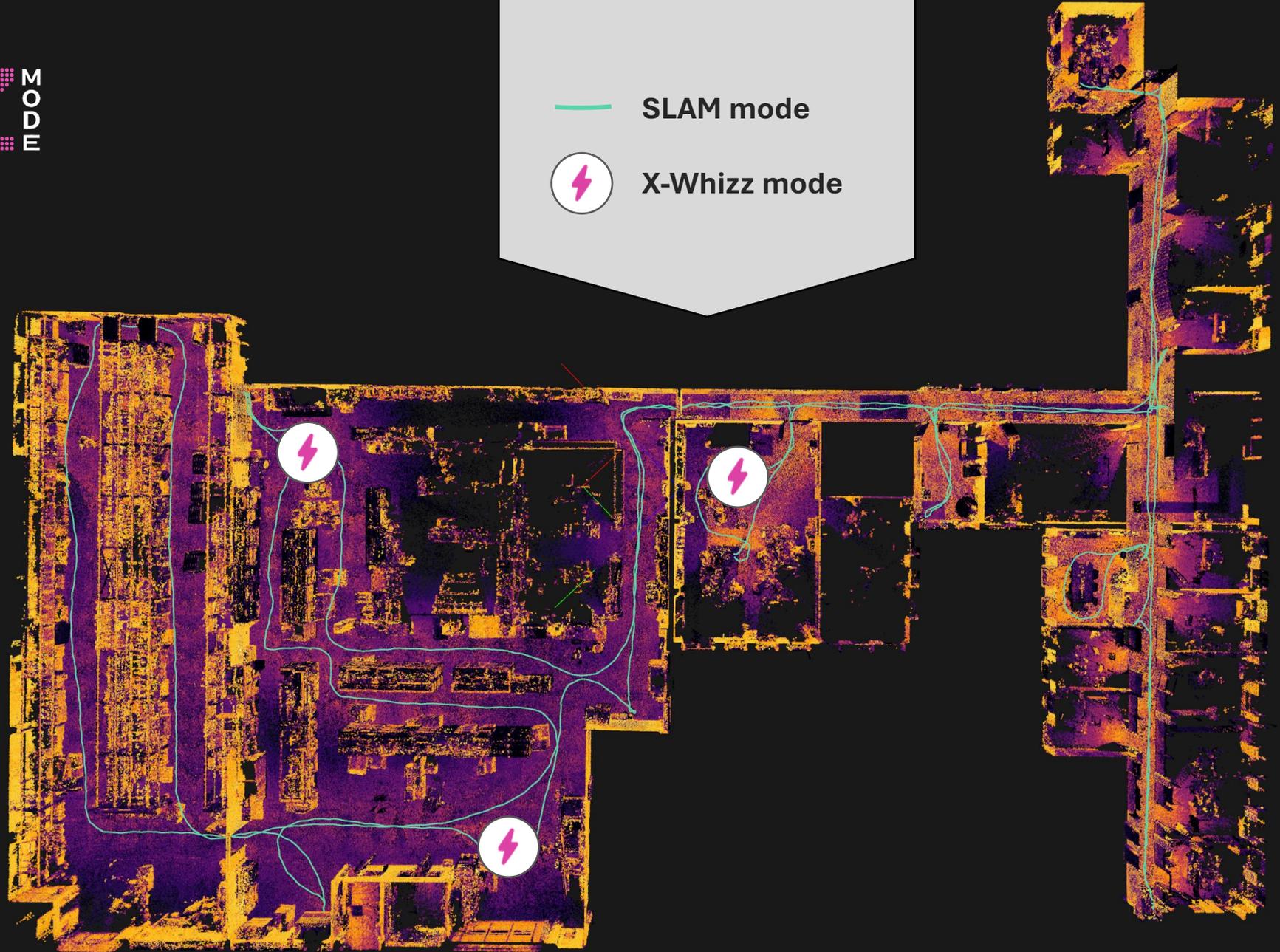
While you are in the field, take photos and these will be located within the point cloud for later reference.

The perfect solution for facility management application!



— SLAM mode

⚡ X-Whizz mode



Hybrid survey SLAM + X-Whizz

SLAM: 8 mins

X-Whizz: 10-80 secs each



X70^{GO} & X200^{GO} combine mobile survey with stationary scans.

Walk around the scene to collect the entire point cloud. In the areas where you need more detail, stand still with the device to perform a static scan with the X-Whizz mode.

The perfect trade-off for who needs **speed and details** in a mobile survey!

Mobile SLAM mode



X-Whizz static mode



X120^{GO}-X200^{GO} – UAV mount

Complete your survey by mounting the device to the DJI M350 drone.

- Power supply and RTK corrections are transmitted by the drone.
- 3 returns, selectable from GOapp
- Initialize the device on the drone, waiting till GOapp ends the countdown.
- Data processing from GOpost (color supported)



X120^{GO}-X200^{GO} - Accessories



X120^{GO}-X200^{GO} - Accessories



BACKPACK



**TABLET
HOLDER**



SR02 RADIO



**SHOULDERS
HOOK**



**PANO
BRACKET**

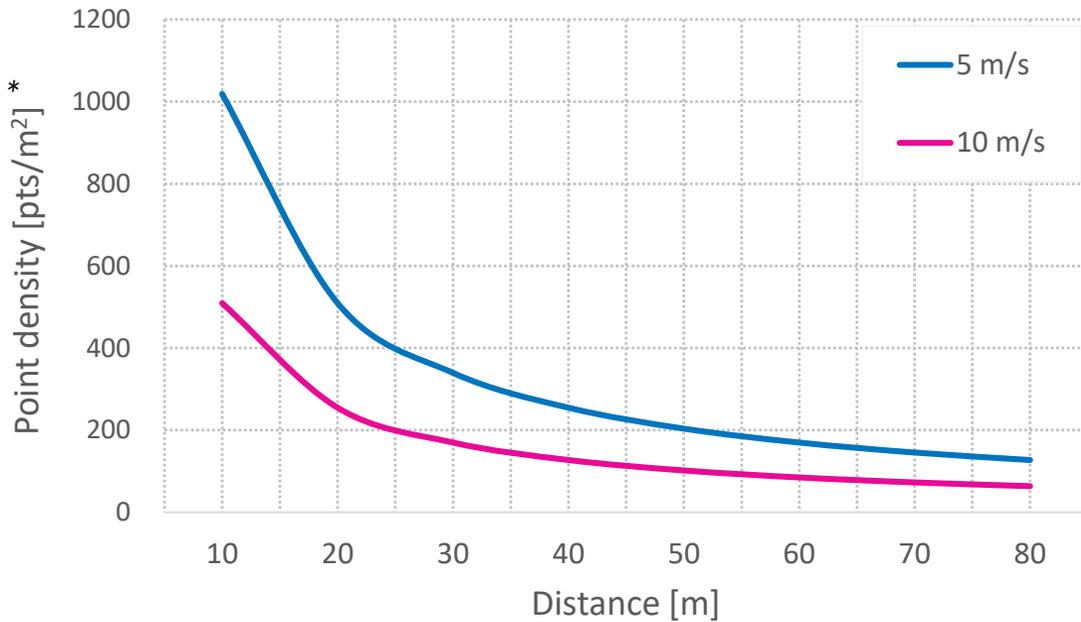
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Car mount

Max suggested speed

In order to ensure sufficient point density, it is suggested not to exceed 20 km/h.

The graph below shows the point density in relation to the distance of the scanned objects.



* Basing on X120GO sensor



Stonex SLAM



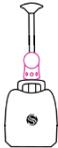
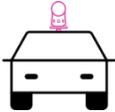
Feature	X200 ^{GO}	X120 ^{GO}	X70 ^{GO}	X40 ^{GO}
Min range	0.5	0.5	0.1	0.1
Max range	300 m	120 m	70 m	70 m
Point rate	640 pts/s	360k pts/s 640 pts/s	200k pts/s	200k pts/s
LiDAR technology	Mechanical rotating		Rotating mirror hybrid-solid	
GCP collection	Yes (on floor, on wall)			
Echos	3	2	-	-
Memory	Internal - 512 GB	Internal - 512 GB	Internal - 512 GB	Internal - 512 GB
Real-time preview	✓	✓	✓	✓
Real-time orientation	✓	✓	-	-
Real-time coloring	✓	✓	-	-
Post processing	Onboard, On PC	Onboard, On PC	Onboard, On PC	On PC
GNSS	Built-in	Built-in	RTK module	-
Mode	SLAM + X-Whizz	SLAM + X-Whizz	SLAM + X-Whizz	SLAM

Stonex SLAM – Differences



Application	X120 ^{GO} -X200 ^{GO}	X40 ^{GO} -X70 ^{GO}
 BIM & Real estate	✓	✓
 Tunnel & Mining	✓	✓
 Energy & Power	✓	
 Facilities / Industrial	✓	✓
 Mobile mapping	✓	
 Forestry	✓	

Stonex SLAM – Differences

Platform	X200 ^{GO} -X120 ^{GO} 	X70 ^{GO} 	X40 ^{GO} 
 RTK	Built-in	RTK module	-
 Backpack	✓	✓	-
 Vehicle mount	✓	-	-
 Pano camera	Built-in Insta X4/X5	Insta X4/X5	Insta X4/X5
 UAV	DJI M350 – M300	-	-

Why choose a Stonex SLAM



STRONG SLAM ALGORITHM

The hardware components for SLAM products are the same throughout the market. 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.



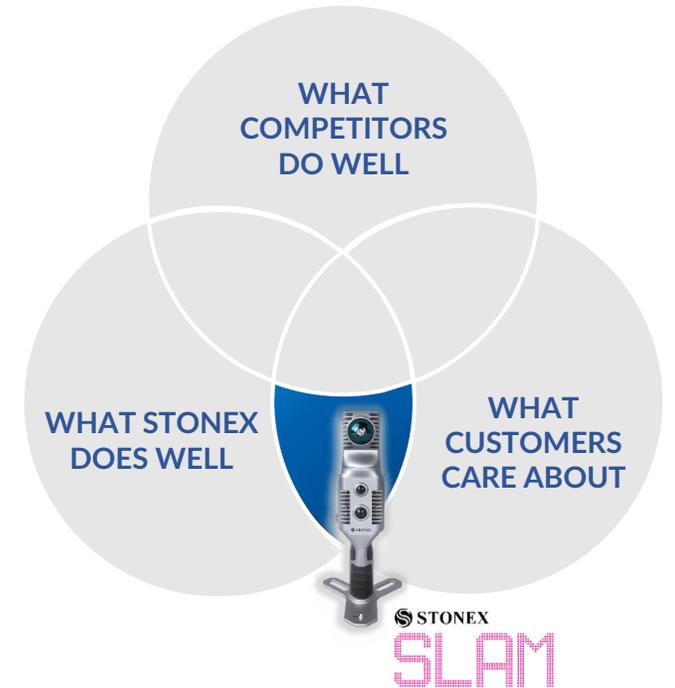
COMPACT DEVICE

Just slightly over one kilogram, which will allow you to do surveys without tiring your arm. The battery embedded in the handle make the hardware compact and free from cables or external data loggers.



EASY TO USE

The user does not need much training in data collection and the one-click processing option, requires no specific knowledge. Anyone can carry out a survey, simply by following a couple of steps. Creating 3D models will be a piece of cake!



Which Stonex SLAM model should I choose?

**THE MOST
VERSATILE**



X200GO

A wide range of accessories allow to cover different scenarios and needs, especially the UAV mount which completes the survey from any point of view. Cover as many applications as possible!

**THE BEST
TRADE-OFF**



X120GO

The best value for money solution on the market! A medium-range sensor that allows you to cover many work applications.

**THAT EXTRA
SOMETHING**



X70GO

The perfect solution for surveying buildings and modest surroundings. Thanks to the static X-whizz mode, you can capture details with greater resolution.

**AFFORDABLE
& COMPACT**



X40GO

Given its efficiency, is becoming affordable for most. And thanks to its compact size, you can always carry it with you.

 STONEX

