

**X120<sup>GO</sup>**



**Federica Pederzani**  
*Product Specialist*

# Main Features

# X120<sup>GO</sup> – SLAM Laser Scanner

---

**X120<sup>GO</sup>** is a Stonex portable mobile lidar scanner.

The system is equipped with a 360° rotating head, which allows for complete reconstruction of the surrounding environment.

SLAM technology is suitable for outdoor and indoor work, without necessarily light and GPS. Whereas, if you want to have control over the acquired data, you can collect ground control points, thanks to the GCP base provided.

It is equipped with three 5-megapixel cameras to generate colourful point clouds and panoramic images.

The instrument arrives with a **GOapp** mobile app for data collection and **GOpost** processing software.

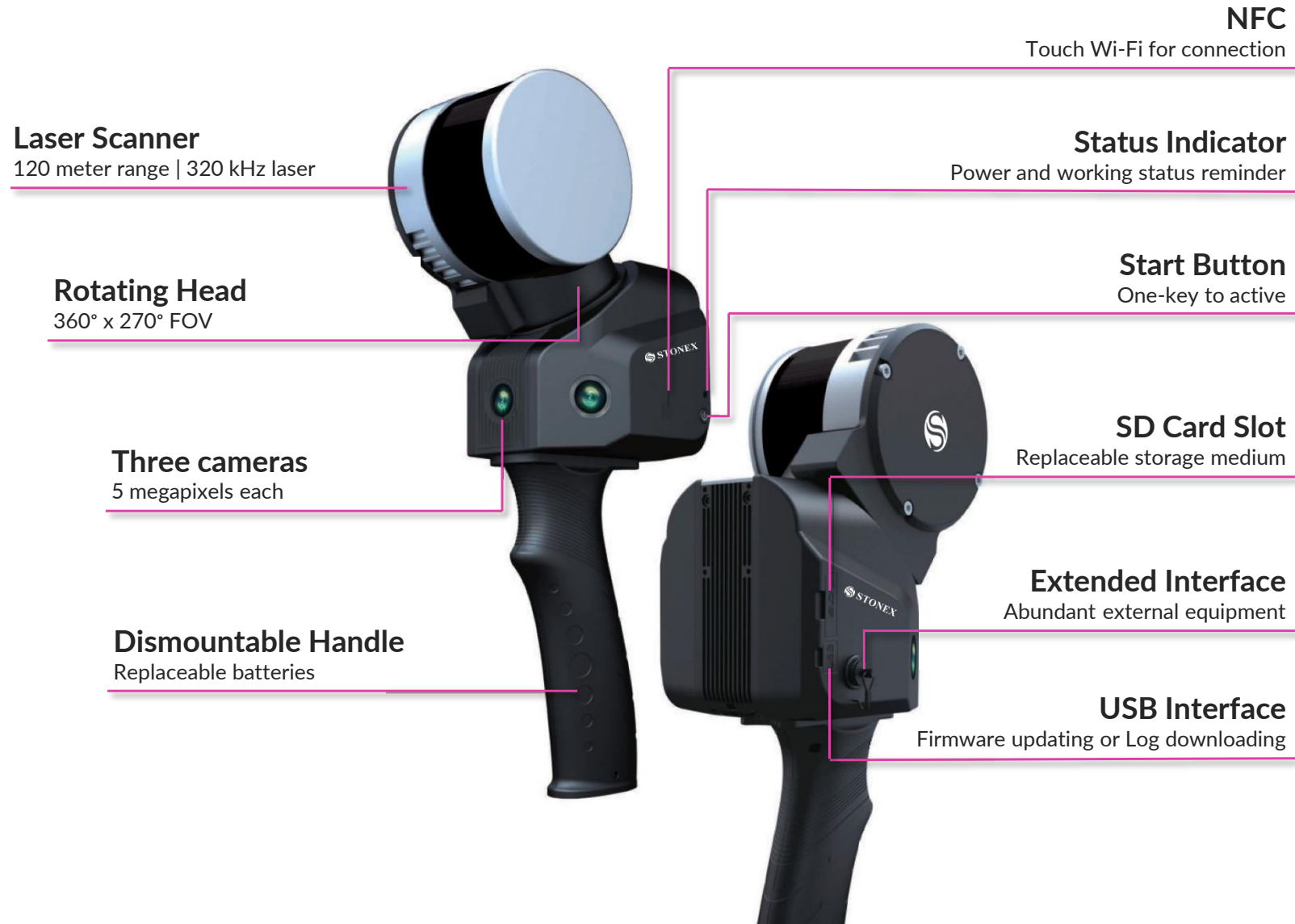


STONEX

**SLAM** X120<sup>GO</sup>

HANDHELD 3D SCANNER

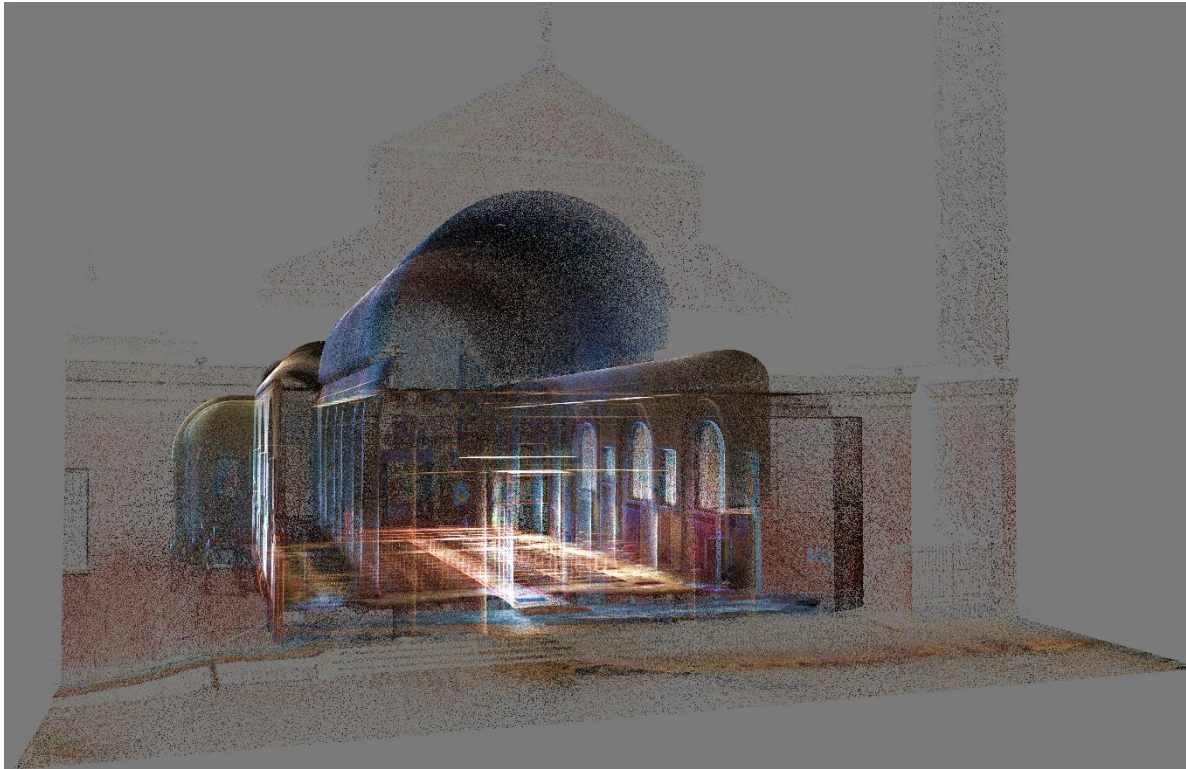
# X120<sup>GO</sup> – Component introduction



# X120<sup>GO</sup> – Main features

## 270°x360° FOV

Thanks to the rotating head, the X120<sup>GO</sup> can collect data dynamically and cover a 270°x360° field of view.

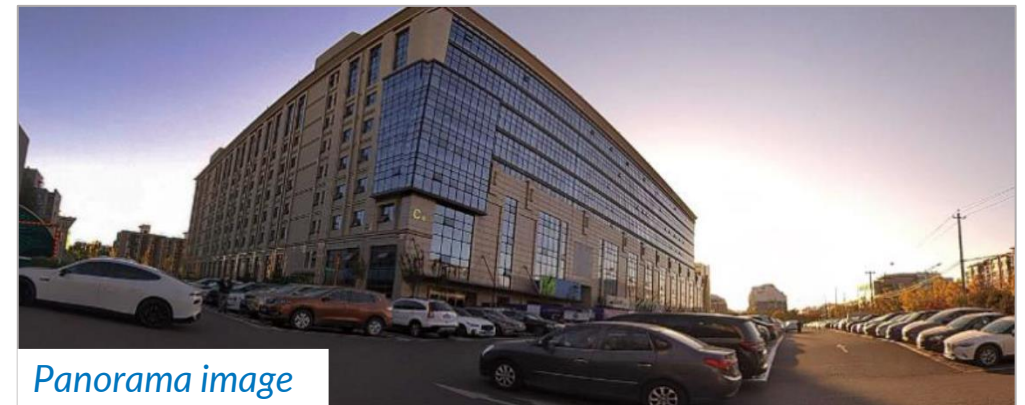




# X120<sup>GO</sup> – Main features

## Cameras

Three 5-megapixel cameras are adopted for 200x100 field of view, to obtain texture information and produce colour point clouds and partial panoramic images.

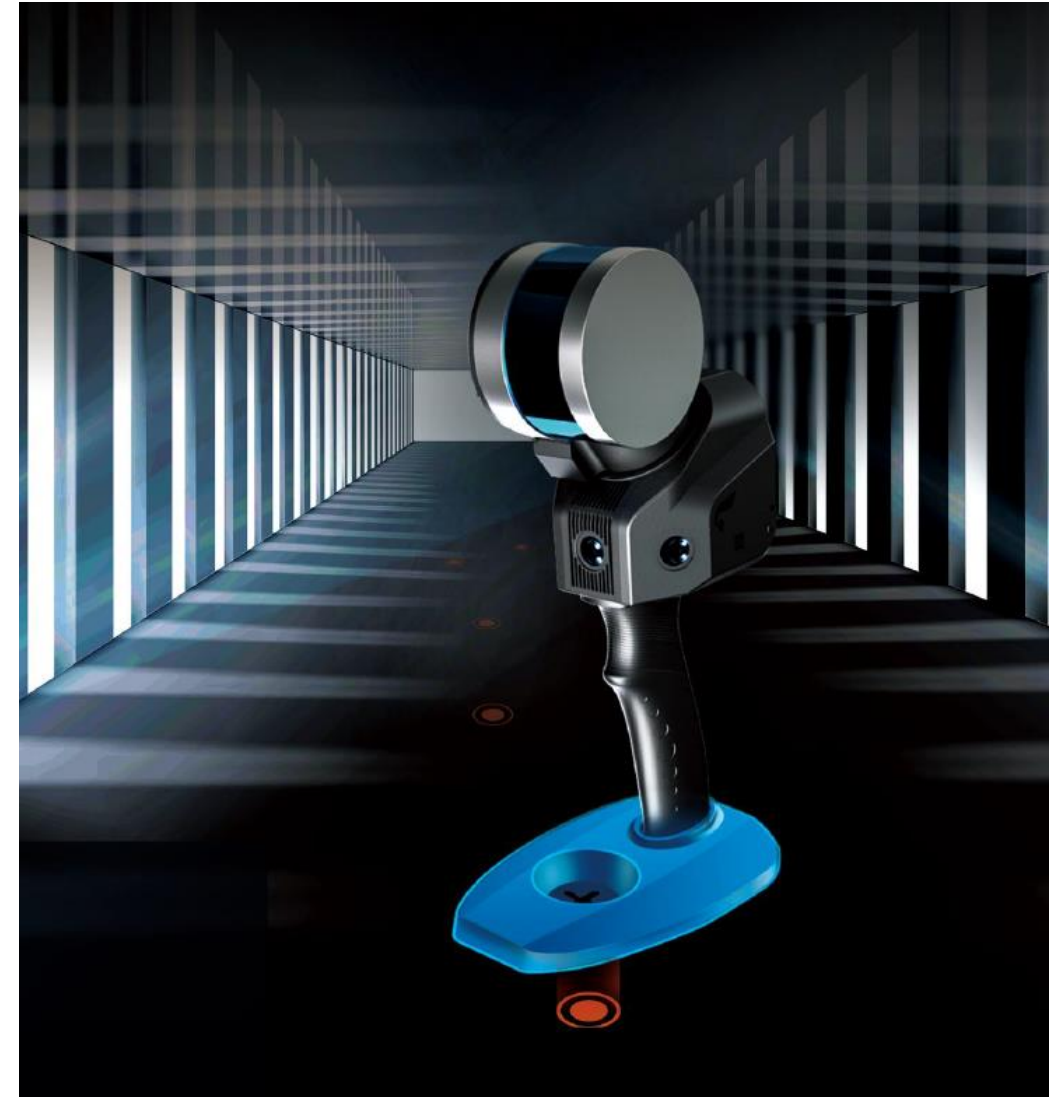


# X120<sup>GO</sup> – Main features

## Automatic control point measurement

X120<sup>GO</sup> can automatically collect ground control points, simply by standing over the same point for a few seconds.

This will make it easy to rototranslate or georeference the data obtained .



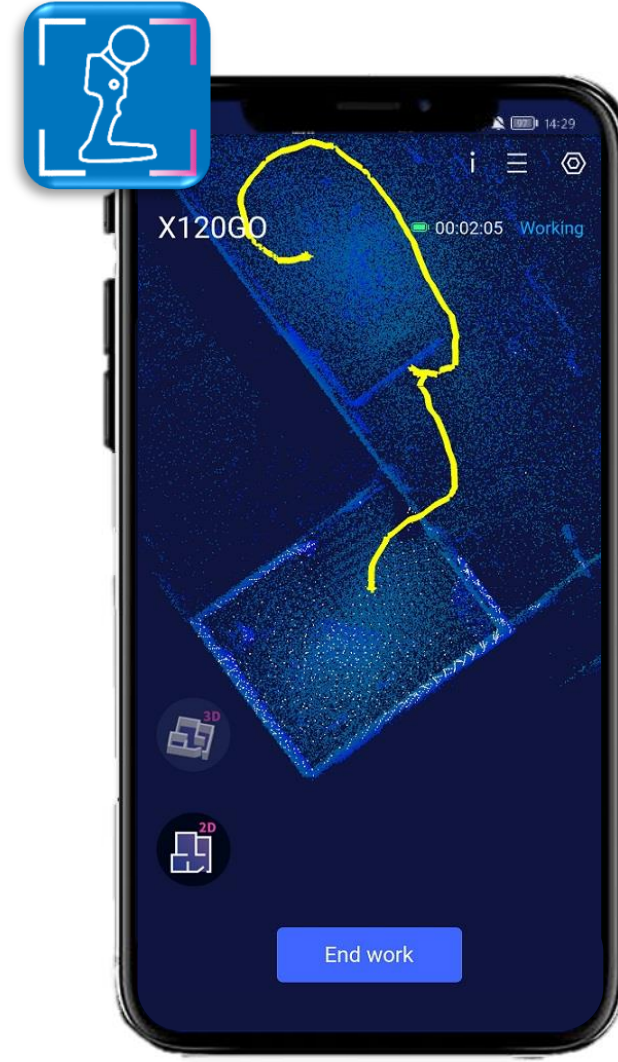
# X120<sup>GO</sup> – Software

## Goapp

GOapp is dedicate mobile application for X120<sup>GO</sup>, to manage projects, real time point cloud display, image preview, firmware upgrade and other operations.

The APP runs on Android devices.

Alternatively, the instrument can collect data independently even without connecting the application.



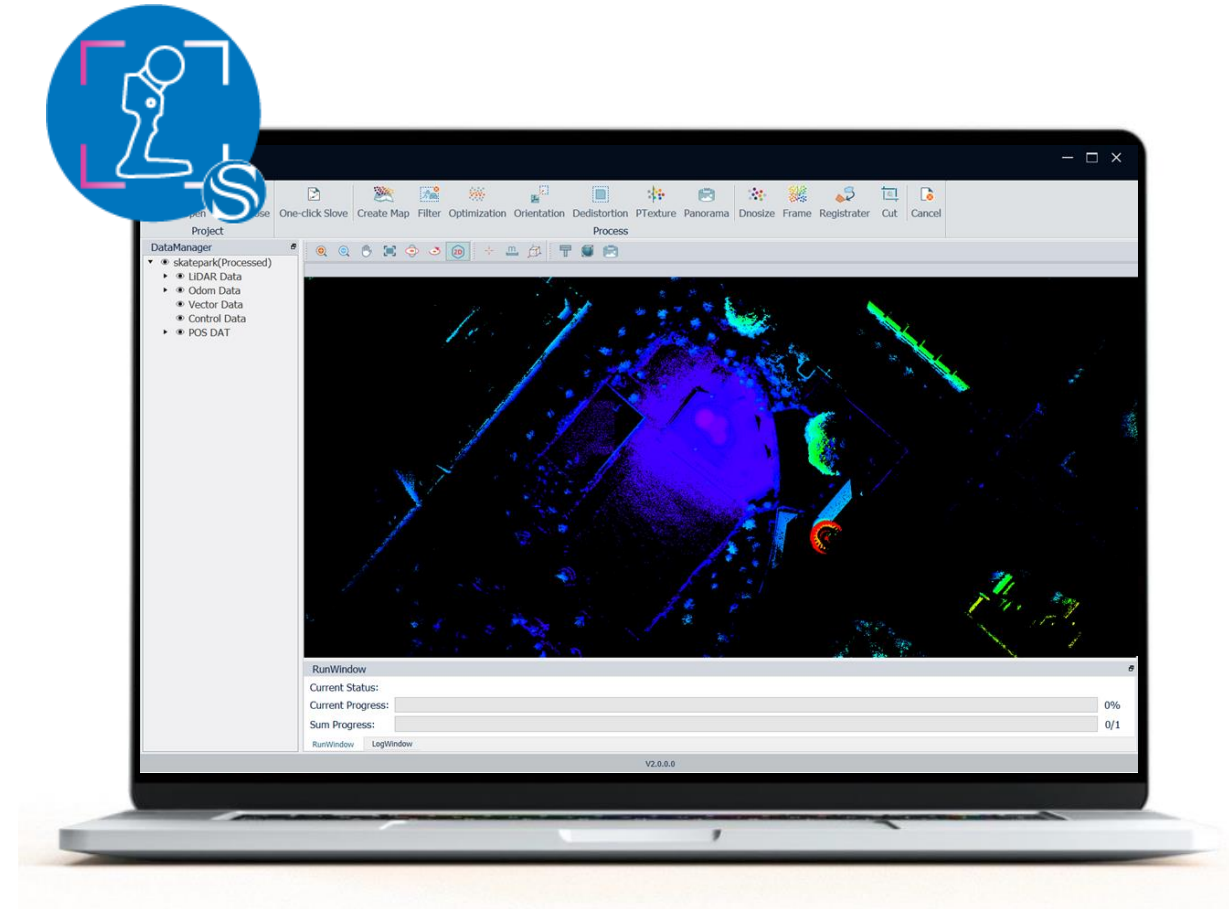


# X120<sup>GO</sup> – Software

## GOpst

Windows post processing software which performs:

- optimization processing
- coloring of point clouds
- creation of panoramic images
- rototranslation on GCP



# X120<sup>GO</sup> – Sensor parameters

X120 <sup>GO</sup>	
Range	0.5 - 120 m
Relative Accuracy	6 mm *
Vertical resolution	16 channels
Scanning Point Frequency	320.000 pts/s
Field Of View	360° x 270°
Laser class	1
N. of cameras	3
Camera resolution	15MP
Camera FOV	200° x 100°
Communication	NFC, Wi-fi

\* In controlled environment



# X120<sup>GO</sup> – Physical specifications

X120 <sup>GO</sup>	
Data storage	32GB (expandable)
Dimension	372mm x 163mm x 106mm (without base)
Net Weight	1.6 kg (without battery)
Working environment temperature	-10°C to 45°C
Working humidity	<85% RH
Waterproof/Dustproof	IP54
Laser class	1



# Marketing



# X120<sup>GO</sup> - Pictures

---



# X120<sup>GO</sup> - Brochure

### X120<sup>GO</sup> TECHNICAL FEATURES

<b>PERFORMANCE</b>		<b>ELECTRICAL SPECIFICATION</b>	
Min Range	120 m	Power Consumption	25W
Max Range	0.5 m	Supply Voltage	20-30V
Relative Accuracy	Up to 5 mm	Operating Time	5h 12 batteries set - 2.5h each set
Vertical Resolution	56 channels	Capacity	32GB on-board
Scanning Point Frequency	320,000 pts/s	<b>PHYSICAL SPECIFICATION</b>	
Field of View	360°x270°	Weight	3.5 kg (without battery)
Laser Class	Class 1	Size	372 mm x 143 mm x 166 mm
Echo Strength	0.1m	Operating Temperature	-20°C to +50°C (4°F to 122°F)
<b>CAMERA</b>		Operating Humidity	<85% RH
Nr of Camera	3 (5 MP each, total 15 MP)	Waterproof / Dustproof	IP-54
Camera FOV	280°x100°		
Image	Semi-spherical		
RGB Point Cloud	Supported		
<b>SYSTEM</b>			
Memory	128GB (expandable)		
Operation Mode	Real-time visualization (Android/iOS)		
Communication	Ni-G, Wi-Fi		

1. Standard visualization  
2. Real-time visualization

### Top data quality...

Buildings, excavations and technical specifications are not binding and may change.

**STONEX®**  
Port of Unibright  
Viale dell'Industria 53 - 20037 Paderno Dugnano (MI) - Italy  
Phone: +39 02 75619201  
www.stonex.it | info@stonex.it

STONEX AUTHORIZED DEALER

STONEX SLAM

## X120<sup>GO</sup> Accurate & Versatile

The system has a 3MP rotating head, which can generate a 300x270° point cloud coverage. Combined with the industry-level SLAM algorithm, it can obtain high-precision three-dimensional point cloud data of the surrounding environment without light and GPS.

Equipped with three 5MP 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.

X120<sup>GO</sup> can use GOapp to check and manage projects, which will be updated and displayed synchronously. Real-time SLAM mapping and preview can be achieved via GOapp. GOapp can perform post-processing of collected data, generate high-resolution and high-definition color point clouds, produce partial panoramic images, display point clouds and perform optimization processing.

X120<sup>GO</sup> has an integrated structure design with a built-in control and storage system and full-temperature lithium batteries.

Once pressed the start button, X120<sup>GO</sup> can start operations immediately, making data acquisition more efficient and convenient.

**LASER SCANNING SOLUTIONS**

### 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. Download the full data right after the capture.

### FLEXIBILITY

Combine indoor & outdoor data, even in the most demanding environments.

### REAL TIME PREVIEW

See your scanning progress in real time using the dedicated Android App.

### AUTOMATIC CONTROL POINT MEASUREMENT

When capturing data, X120<sup>GO</sup> is able to collect reference points too. They can be matched with known control points to georeference the scans.

### INTEGRATED CAMERAS

Three integrated 5MP cameras are able to cover the wide field of view of the scanner, obtaining coloured point cloud and panoramic images.

270°  
360°

### SLAM TECHNOLOGY

#### 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 most demanding environments.

### BUNDLED SOFTWARE

#### GOapp

GOapp is a dedicated mobile application for X120<sup>GO</sup>, to manage projects, real-time point cloud display, image preview, firmware upgrade and other operations. The App runs on Android 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 photogrammetric software for mapping and aerial image processing, dedicated to land surveying specialists. It will transform image data into highly accurate digital maps and 3D models with extreme precision. It imports Cube's surveys and is fully compatible with registered Stonex scans and with any third-party 3D models.

#### PointCab

PointCab is a software for managing and aligning point clouds. It comes to the evaluation of point cloud data - working with all laser scanners and compatible with all CAD and BIM systems.

### STONEX 3D RECONSTRUCTOR

Stonex Reconstructor software allows you to manage and align point clouds acquired through laser scanners or other sensors, clouds produced by photogrammetry and in general any point cloud. Expand functionality with add-on modules.

# X120<sup>GO</sup> - Video



# Configuration



# X120<sup>GO</sup> – PointCab Origins

PRODUCT CODE	DESCRIPTION	Q.TY
B60-200412	X120GO SLAM Handheld laser scanner	1
	PointCab Origins (1Y maintenance included)	1
	Chargeable battery (1 piece)	8
	Smart charger for batteries (EU, US and car plugs)	1
	GCP base – bottom bracket	1
	Handle	1
	SD card & reader	1
	GOapp Software	-
	GOpost Software dongle key	1
	Rugged case	1

# X120<sup>GO</sup> – PointCab Origins Pro

PRODUCT CODE	DESCRIPTION	Q.TY
B60-200413	X120GO SLAM Handheld laser scanner	1
	PointCab Origins Pro (1Y maintenance included)	1
	Chargeable battery (1 piece)	8
	Smart charger for batteries (EU, US and car plugs)	1
	GCP base – bottom bracket	1
	Handle	1
	SD card & reader	1
	GOapp Software	-
	GOpost Software dongle key	1
	Rugged case	1

# X120<sup>GO</sup> – Accessories

---

PRODUCT CODE	DESCRIPTION
30-350653	Chargeable battery (1 piece)
30-350654	Smart charger for batteries (EU, US and car plugs)
30-350655	GCP base – bottom bracket
30-350656	Handle
30-350657	GOpost Software dongle key

---







## New software






# PointCab – Origins/Origins Pro



-  Layouts & Sections
-  Sketch
-  Align Project
-  Merger
-  Web Export
-  Transformation Calculator

-  Layouts & Sections
-  Sketch
-  Align Project
-  Merger
-  Web Export
-  Transformation Calculator
-  Point Cloud Registration
-  Point Cloud Export
-  Vectorizer
-  Volumes
-  Mesh
-  Space Warp





## Layouts & Sections

### Functions

- ✓ Sections & layouts at all angles
- ✓ Optional colouration
- ✓ Difference analysis & comparison
- ✓ Individual sheets for sections & layouts
- ✓ Multiple sections & layouts at the same time
- ✓ Export to all common CAD formats

### Benefits

- ✓ No navigation in the point cloud necessary
- ✓ Time-saving
- ✓ Easy-to-use
- ✓ Great visualisation of data
- ✓ Fast & meaningful deliverables

### Target audience

Architects, CAD-Users,  
Planners, Surveyors,  
Engineers

-> Everyone who  
wants to get layouts and  
sections fast and easy.



## Sketch

### Functions

- ✓ Measure areas
- ✓ Measure distances
- ✓ Measure angles
- ✓ Text annotations
- ✓ Photomatch
- ✓ Measure 3D points
- ✓ Panorama views
- ✓ Export 3D points to all common CAD formats

### Benefits

- ✓ No navigation in the point cloud necessary
- ✓ Time-saving
- ✓ Easy-to-use
- ✓ Great visualisation of data in Panorama views
- ✓ Fast & meaningful deliverables
- ✓ Easy documentation with photomatch

### Target audience

Architects, CAD-Users,  
Planners, Surveyors,  
Engineers

-> Everyone who  
wants to get fast and  
easy deliverables.



## Align Project

### Functions

- ✓ Align skewed projects
- ✓ Transform point clouds into a coordinate system of your choice
- ✓ Align project using vector lines

### Benefits

- ✓ No navigation in the point cloud necessary
- ✓ Time-saving
- ✓ Easy-to-use
- ✓ Enables better understanding of data

### Target audience

Architects, CAD-Users,  
Planners, Surveyors,  
Engineers

-> Everyone who  
needs their point  
cloud data  
transformed.





## Web Export

### Functions

- ✓ Export as .html file
- ✓ Export as PDF file
- ✓ Measure in created files
- ✓ Share panorama views
- ✓ Branding: customise logo, colours etc.

### Benefits

- ✓ Easy-to-use
- ✓ Easily share your results via web or e-mail
- ✓ Easy documentation

### Target audience

Architects, CAD-Users,  
Planners, Surveyors,  
Engineers

-> Everyone who  
wants to share their  
results quickly & easily



## Point Cloud Registration

### Functions

- ✓ Georeferencing
- ✓ Target based registration (spheres, targets & natural points)
- ✓ Global balancing
- ✓ Improvement of registration with plane-to-plane possible
- ✓ Transformation calculator
- ✓ Detailed registration report

### Benefits

- ✓ Easy-to-use: registration in 4 steps
- ✓ Improve your scan data

### Target audience

Surveyors

-> Everyone who values precise registration.



## Vectorizer

### Functions

- ✓ Semi-automatic vectorisation
- ✓ Snapping of vector lines
- ✓ Export to all common CAD formats
- ✓ Create profile lines

### Benefits

- ✓ No navigation in the point cloud necessary
- ✓ Time-saving
- ✓ Easy-to-use
- ✓ Easier pre-processing for CAD

### Target audience

Architects, CAD-Users,  
Planners

-> Everyone who  
needs vectorized  
layouts



## Volumes

### Functions

- ✓ Volume determination of construction pits or rubble heaps
- ✓ Based on a meshing of the point cloud
- ✓ REB 22013 compliant
- ✓ PDF documentation

### Benefits

- ✓ No navigation in the point cloud necessary
- ✓ Easy-to-use
- ✓ Compliant with German regulations
- ✓ Easily share & document as PDF

### Target audience

Architects, CAD-Users,  
Planners, Surveyors,  
Engineers

-> Everyone who  
needs volume  
determination



## Space Warp

### Functions

- ✓ Polygonal sections
- ✓ Cylindrical sections
- ✓ Curvy sections
- ✓ Create oblique sections and sections in self-created sections
- ✓ Elevation Profile
- ✓ Export to all common CAD formats

### Benefits

- ✓ No navigation in the point cloud necessary
- ✓ Easy-to-use
- ✓ Time saving
- ✓ Easier pre-processing for CAD
- ✓ Facilitates working with “out of the ordinary” structures

### Target audience

Architects, CAD-Users,  
Planners, Surveyors,  
Heritage, Engineers

-> Everyone who  
works with “out of  
the ordinary”  
structures

# PointCab – Origins/Origins Pro – Plug-In



- No export/import of point cloud data necessary
- Direct transfer of lines etc.
- Direct transfer of 3D information
- Correct positioning of custom templates
- Data transformation for other CAD software
- No navigating in the point cloud necessary
- For BricsCAD Pro & Platinum, version 19+



- No export/import of point cloud data necessary
- Direct transfer of objects
- Direct transfer of vector lines
- Direct transfer of 3D information
- Correct positioning of custom objects
- No navigating in the point cloud
- Compatible with Autodesk Revit as of 2017

# Competitors



SLAM SCANNER								
September 2022	STONEX	Geo SLAM	Leica Geosystems	GreenValley International	emesent	SOUTH Target your success	Geosun	NavVis
								
MODEL	X120 <sup>GO</sup>	ZEB-HORIZON	BLK2GO	LiGrip V10	Hovermap ST	RS100S	GS-100G	VLX
Max range	120m	100m	25m	100m	100m	120m	120m	100m
Lidar FOV (HxV)	270°x360°	270°x360°	270°x360°	280°x360°	290°x360°	285°x360°	270°x360°	30°x360°
Laser Channels	16	16	-	16	16	16	16	16
Laser Class	1	1	1	1	1	1	1	1
Points/sec	320.000	288.000	420.000	300.000	300.000	320.000	320.000 - single echo 640.000 - dual echo	300.000
Relative accuracy	Up to 0.6 cm	Up to 0.6 cm	0.6-1.5cm	±3cm	±1.5cm	Up to 1 cm	±1.5cm	N/A
Number of cameras	3	External Camera Optional	1 + 3 Panoramic	External Camera Optional	External Camera Optional	NO	3	6
Camera resolution	15 Megapixels	-	12 Megapixels / 4.8 Megapixels (Panoramic)	-	-	NO	15 Megapixels	6x16 Megapixels
Camera FOV	200°x100°	-	90°x120° 300°x135° (Panoramic)	-	-	-	270°	360°
Storage	32 GB (expandible)	120 GB	6 hrs	128 GB	512 GB	500 GB SD card support	64 GB MicroSD 256 GB support	256 GB plus 1 TB external
WLAN	✓	✓	✓	✓	✓	-	✓	-
NFC	✓	NO	NO	NO	NO	NO	NO	NO
GNSS	External optional	External optional (Locate)	NO	External optional	NO	NO	✓	-
Battery duration	2.5 h (each set of batteries)	3 h (each battery)	50 min (2 batteries)	4 h (each battery)	-	2 h (each battery)	-	3.5 h
Operating temperature	-10°C / +45°C	0°C / +50°C	-5°C / +40°C	-	-10°C / +45°C	-40°C / +60°C	-20°C / +55°C	0°C / +40°C
IP	IP54	IP54	IP54	IP65	IP65	IP45	-	-
Weight	1.6 kg (no battery)	Handle: 1.45 kg Datalogger: 1.4 kg	775 g	Handle: 1.5 kg	1.8 kg	1.6 kg	1.7 kg (no battery)	9.3kg - Not handheld
Size	372x163x106 mm	266x216x104 mm	279x80x80 mm	128.5x64x165 mm	393 x 155 x 150mm	-	394x153x93 mm	198 x 78 x94 cm
GCP	Automatically record points	Automatically record points	NO	Automatically record points	NO	NO	GCP base	Post process
Extension	Panoramic camera, RTK module	Panoramic camera, real time visualization	-	Panoramic camera, RTK module	External camera	-	-	-
Accessory	UAV drone, Backpack, Vehicle	UAV drone, Backpack, Vehicle, Cradle, Pole, Protective cage	-	UAV drone, Backpack, Vehicle	UAV drone, Backpack, Vehicle, Protective cage	Backpack, UAV, Vehicle	UAV drone, Backpack	Trolley

Legend		Competitor is worst
		Competitor is better



VISIT OUR WEBSITE  
[www.stonex.it](http://www.stonex.it)



REQUIRE INFO  
[sales@stonex.it](mailto:sales@stonex.it)



WE ARE HERE  
Paderno Dugnano (Mi) - Italy