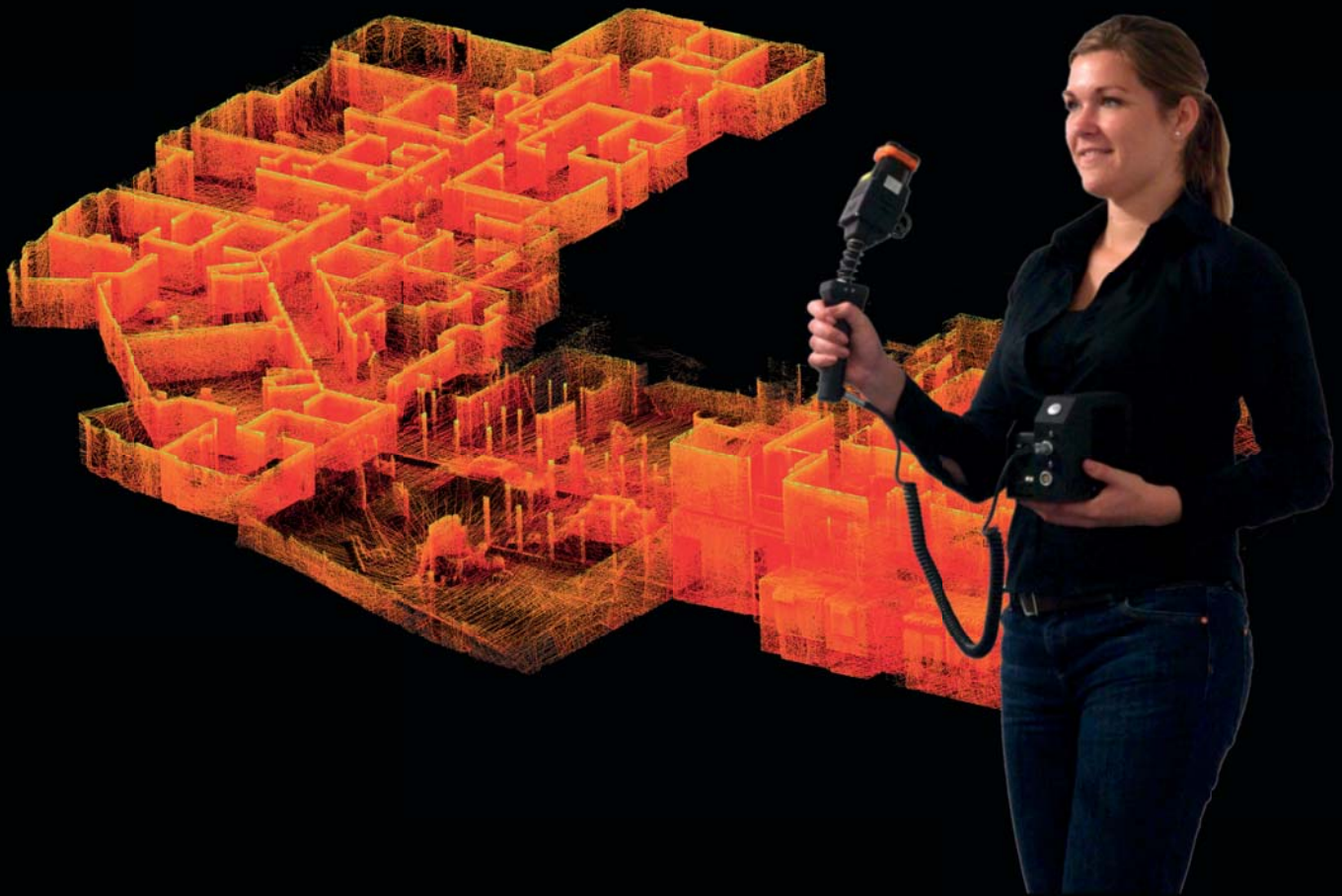


# Survey in motion

Fast  
Accurate  
Proven  
Efficient

**ZEB1** - handheld mobile mapping system



## System Features

- Ultra Mobile** Light and mobile, the ZEB1 can be used to rapidly scan multi-level environments
- Rugged** With an IP64 rating, the ZEB1 is both dust-tight and splash-proof
- Simple to Use** No need for GPS or control, the one button on/off operation reduces training requirements
- Fast** Complete surveys in minutes, much faster than traditional survey methods

## How It Works



### WALK & SCAN

Scanning couldn't be simpler with the **ZEB1**. The scanner is initialised after just 1 button push. The 40Hz scan speed and 270° field of view allows for fast, accurate and high quality data capture.



### REGISTER

Automatic SLAM (Simultaneous Localisation And Mapping) cloud-to-cloud registration using either **GeoSLAM Desktop** processing or **GeoSLAM Cloud** pay-as-you-go processing.



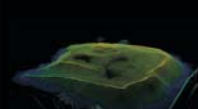
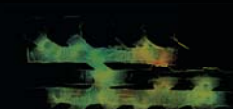
### POINT CLOUD

Resulting 3D point cloud produced in .laz format, as well as trajectory condition files. Extracted .las file compatible with all major industry standard post processing software.

## Applications

The ZEB1 is the award-winning mobile handheld scanner from GeoSLAM. Its versatility renders it suitable for a wide variety of applications, including measured building surveys, underground mine and cave mapping, forestry, stockpile measurement and crime scene reconstruction.

At its core is GeoSLAM's industry-leading Simultaneous Localisation And Mapping (SLAM) algorithm, which facilitates rapid mobile mapping of enclosed environments, without the need for GPS.



**Buildings** | **Underground** | **Forestry** | **Marine** | **Stockpiles** | **Security**

## System Operation

### Fast Scanning

The ZEB1 is up and ready to scan in under a minute. The smart SLAM algorithm requires just 1 loop closure. Complete entire building surveys in a fraction of the time of traditional surveying equipment or static terrestrial laser scanners.

### Data Capture

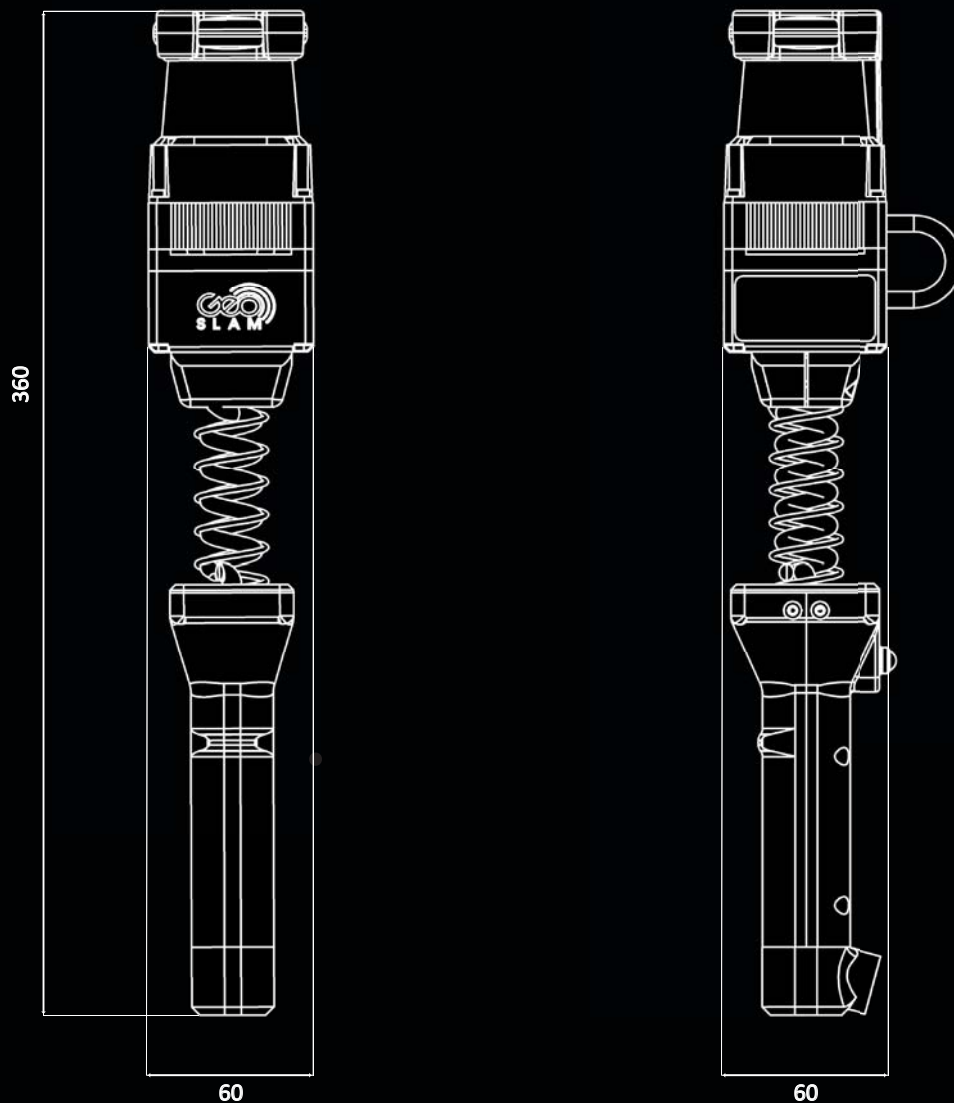
Capable of capturing over 43,000 measurement points per second, with a 270° field of view.

### Data Download

Data download couldn't be simpler- insert the data cable to automatically download the last dataset obtained. Highly compressed data allows for fast download speeds.

### Data Registration

Scan data can be uploaded using GeoSLAM Cloud, or registered out in the field using GeoSLAM Desktop (with no internet connection required). Processed data is compatible with all major CAD software packages.



# ZEB1

## System Features

<b>Maximum Range</b>	30m*
<b>Data Acquisition Rate</b>	43,200 points/sec
<b>Resolution</b>	0.25° horizontal, 3.5° vertical
<b>Angular FOV</b>	270° x 150°
<b>Supply Voltage</b>	12VDC ± 10%
<b>Supply Current</b>	Max 1.5A, normal 1.0A
<b>Power Consumption</b>	Less than 20W
<b>Operating Temperature</b>	0° to +50 °C
<b>Operating Humidity</b>	<85% RH

\*Maximum range to Kodak white card indoors (90% reflectivity)

Outdoors range may be reduced to 15-20m depending on environmental conditions

## Sensor

<b>Laser Safety Class</b>	Class 1 Eye Safe
<b>Laser Wavelength</b>	905nm
<b>Scanner Line Speed</b>	40Hz
<b>Scanner Resolution</b>	0.25° horizontal

## Battery

<b>Battery Type</b>	Lithium Polymer (LiPo)
<b>Capacity</b>	8Ah +/- 5%
<b>Nominal Voltage</b>	12V
<b>Battery Life</b>	4 hours (continuous use)
<b>Charge Time</b>	8 – 12 hours
<b>Battery Lifespan</b>	300+ cycles
<b>Chargers Supplied</b>	UK, USA, EU & AUS
<b>Weight</b>	600g

## Data

<b>Data Storage Capacity</b>	55GB
<b>Raw data file size</b>	~10MB for every 1 min scanning
<b>Processed data file size</b>	~8MB for every 1 min scanning
<b>Default output file format</b>	.LAZ (compressed .LAS)
<b>Compatibility</b>	Unzipped .LAS data compatible with all major CAD software packages

## Accuracy

<b>Relative Accuracy</b>	2 – 3cm
<b>Absolute Position Accuracy</b>	3 – 40cm (5 mins scanning, 1 loop)

A number of environmental factors can influence trajectory accuracy, including:

- Extremely smooth or blank surfaces
- Moving objects (i.e. people or vehicles)
- Feature-poor environments (i.e. corridors)
- Precipitation
- Failure to close the loop

Under optimum indoor conditions, greater accuracy can be achieved than that stated above.

## Casing

<b>IP Rating</b>	IP64 (dust-tight, splash-proof)
<b>Cable Connectors</b>	LEMO multi pin
<b>Weight (scanner)</b>	0.66kg
<b>Weight (total system)</b>	3.6kg
<b>Dimensions (scanner)</b>	60 x 60 x 360mm
<b>Dimensions (backpack)</b>	220 x 180 x 470mm