



Subsurface Mapping

# GS9000

Multichannel GPR





GS9000

# See Below Ground

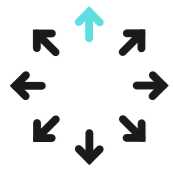




# GS9000

## Multichannel GPR pushcart

Modular sensors. Highest data quality. Powerful 3D software. 100% real time.



### Versatile

Two swappable array modules to cover one vast array of subsurface mapping applications.



### Efficient

Simple to set up and operate, with on-the-fly data visualization to avoid interpretation errors on site



### Accurate

Seamless GPR + GNSS technology integration for accurately georeferenced high-density data.



# Overview



Wirelessly controlled from an iPad Pro with **gestures**

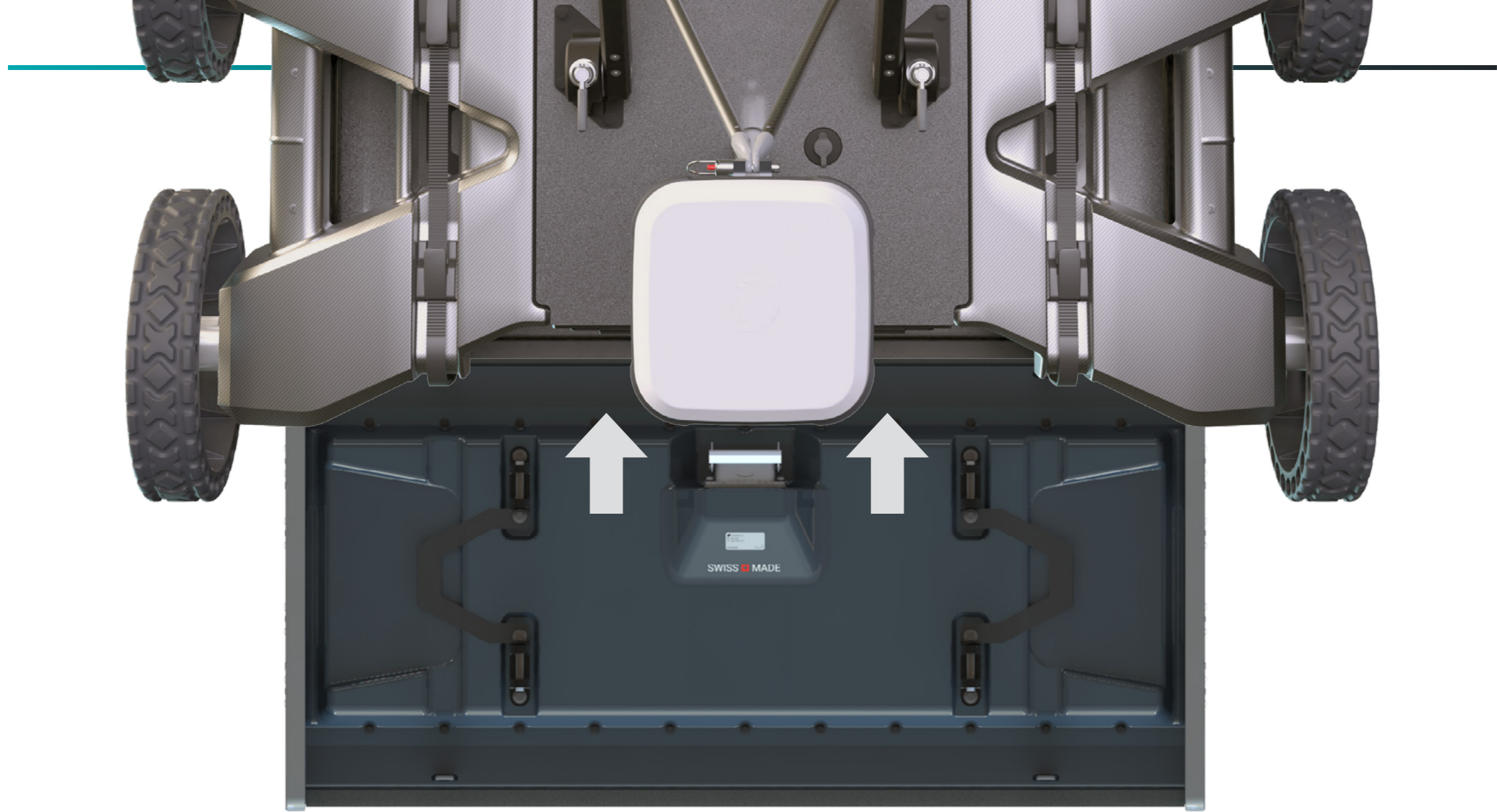
Excellent **ergonomics** designed for the best manoeuvrability

Built in carbon fiber to provide **durability and lightness**

Its smart **modular** concept allows to quickly attach the right GPR array antenna for the job at hand

Powered by **simple** hot-swappable power banks

Fully **foldable** for easy transport



# Technology

Multichannel Stepped Frequency Radar



### Outstanding data quality

Live signal modulation across a wide bandwidth and multiple channels, resulting in perfectly balanced radar imaging.

SWISS  MADE

## Compatible GPR array modules

### GX1

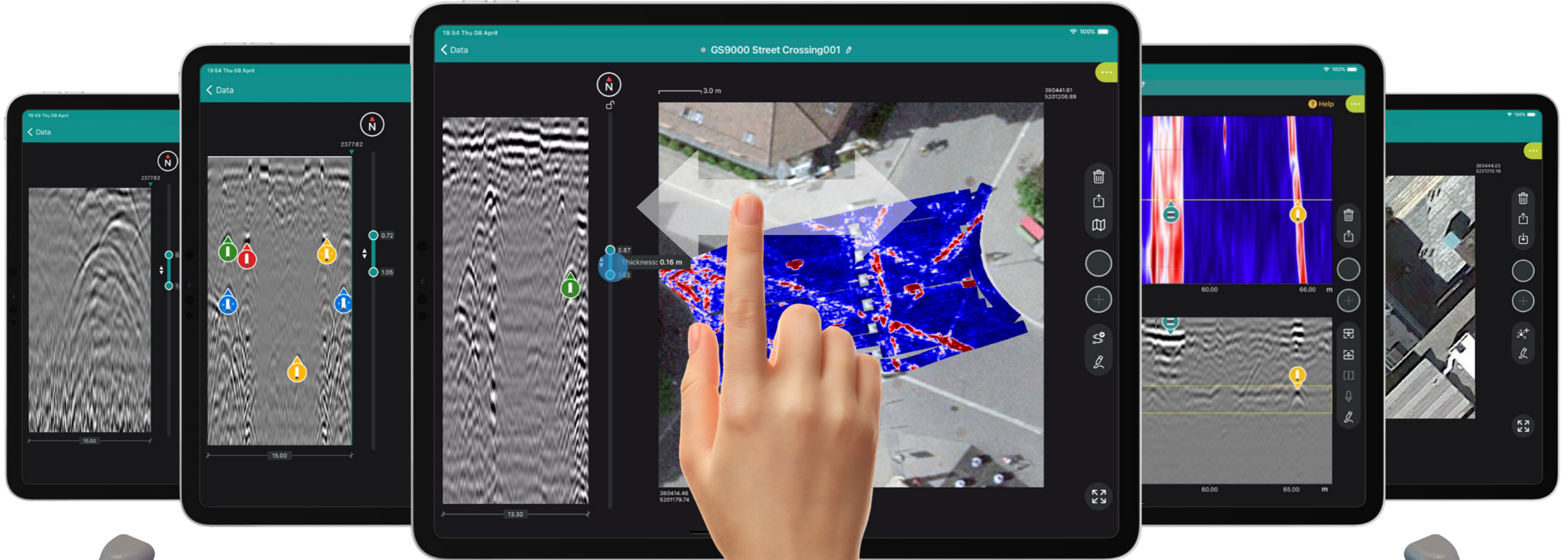
High frequency range

- For structural applications
- Ultra-high resolution in first meter
- Frequency range: 500-3,000 MHz
- 35 + 15 channels, dual polarization
- 2.5cm (1 in) channel spacing

### GX2

Low frequency range

- For utilities and geophysics
- Optimal detection in first 2-3 m
- Frequency range: 30-750 MHz
- 83 cm wide swath - 11 channels
- 7.5cm (3 in) channel spacing



# Software

## FIELD APP

Live georeferenced data visualization



### Live tomography

See buried objects forming on a map as you walk over them. No waiting time, all georeferenced.



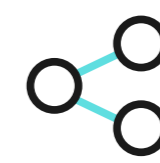
### Intuitive data

Complex data presented in an understandable way. All needed tools to interpret and digitize the reality on site.



### Simple gestures

Interact with the user interface with simple, familiar gestures. Full control at your fingertips.



### Instant sharing

Get your field projects, reports and drawings to your colleagues and clients in just one click.



# Software

## POST-PROCESS



### Manage large projects

Merge multiple field jobs into one same project and see the big picture on a map.



### Increase accuracy

Easily apply advanced filters to raw data, and correct topographically for the highest accuracy.



### Get more insights

Organize how to see the data with advanced 2D and 3D visualization modes to not miss any detail.



### Automated mapping

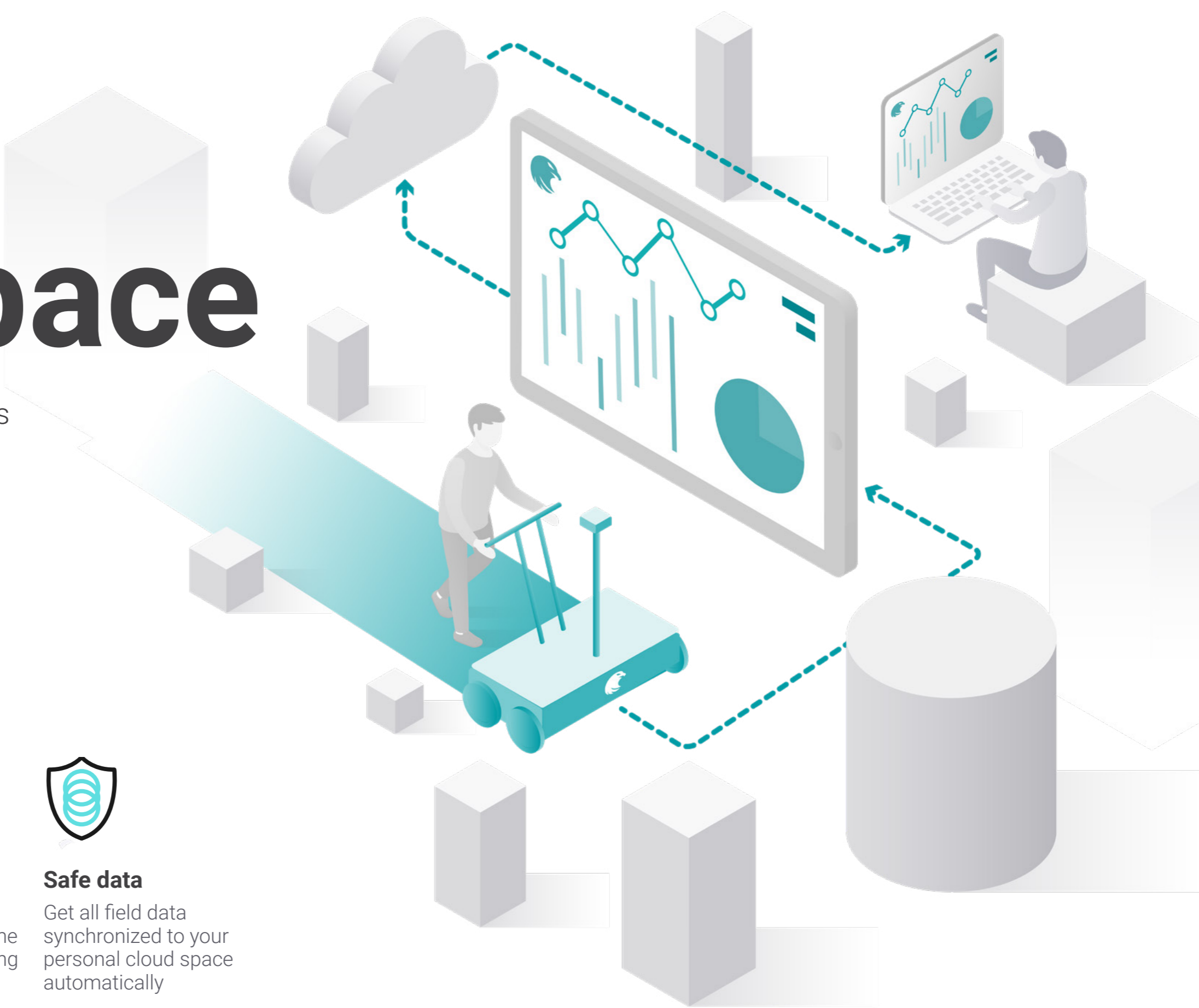
Ultra-fast algorithms to analyse raw data and create application-specific diagnostic maps



# All powered by Workspace

Cloud-connected workflow & services

**Collect**  
**Sync**  
**Share**



### Streamlined workflow

Field data management, post-processing software and sharing options integrated in the same platform



### Integrated services

Data conversion tools and services like real-time GNSS corrections running online for maximal convenience



### Safe data

Get all field data synchronized to your personal cloud space automatically



# Applications

## GS9000

### SUE & Utility mapping

Detection of buried pipes, ducts and cables for safe digging or utility mapping purposes



### Road & Bridge inspection

Structural diagnostics and monitoring of bridges, concrete structures and roadways



### Geophysical surveys

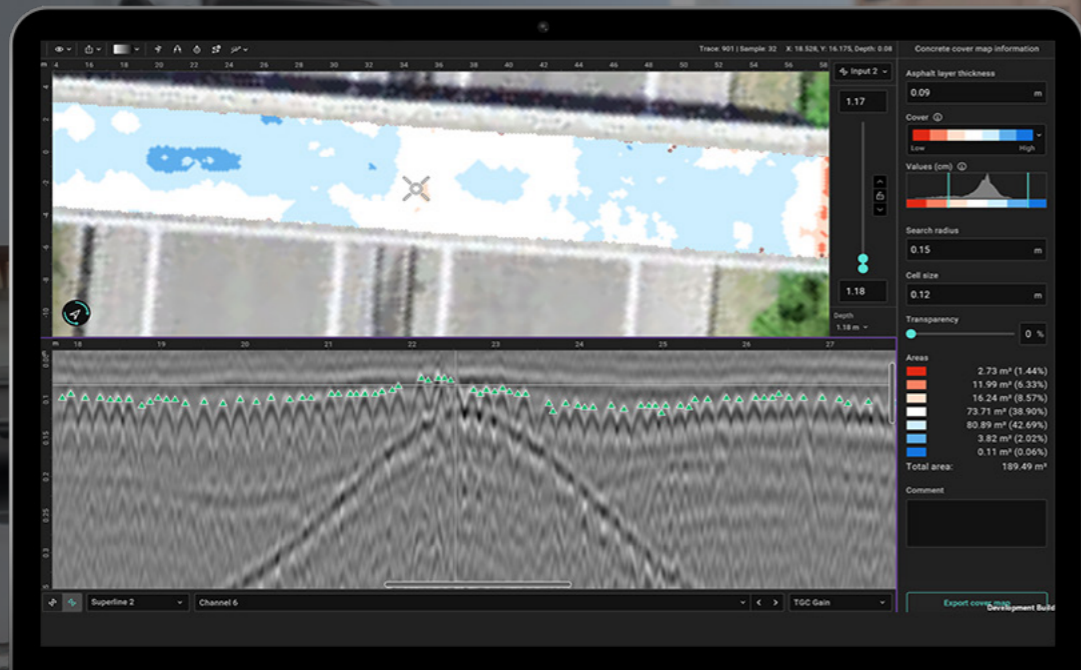
Geotechnical projects and detection of geological anomalies and hazards



### Archaeology & Forensic explorations

Prospection of archaeological sites, detection of unexploded elements





# GS9000

## Combined with GX1

- Bridge condition & deterioration
- Concrete cover & moisture mapping
- Asphalt layer thickness analysis
- Fiber cable detection and mapping

# GS9000

**Combined with GX2**

Subsurface utility mapping

Underground cavity detection

Archaeological site prospections

Unexploded ordnance surveys





# HW Specs

## GS9000



### GX1 array module

**500-3000**  
MHz

**35 + 15** channels  
2.5 cm spacing

### GX2 array module

**30-750**  
MHz

**11** channels  
7.5 cm spacing



### Dimensions

**45Kg**

**72 x 118 x 44** cms

### Up to

**27,500**  
scans/m

**5,000**  
points / linear m

### Powered by



45W Power bank

### Real-time 3D accuracy



**SSR** included  
NTRIP compatible

**1-5** cm

**Total station** compatible

### Wireless



optional USB-C



# SW Specs



## Field software

### Field methodology

- Free Path
- Superline

### Field calibration options

- Odometer calibration
- Velocity by hyperbola fitting
- Velocity for multiple layers

### Live Image Processing

- Time Slice View (geo-referenced)
- Hilbert migration
- Depth range adjustment
- Dynamic Gain / Manual Gain
- Sensitivity filter
- Background removal filter
- Noise cancellation filter
- Frequency filter

### Cloud services

- Live data synchronization to Workspace<sup>1</sup>
- Permanent data storage
- Raw data export to SEG-Y
- Instant CAD / SHP / KML drawing generation
- Instant report generation
- Share via url

### Live Display Options

- Satellite imagery
- GNSS trajectory
- CAD object layers
- Spectral / seismic color palettes

### Coordinate Systems

- EPSG global database
- Local grid models
- Geoid models

### On-site annotations

- Tags
- Points of interest
- Photos
- Voice markers
- Markups
- Linework

### Languages

- English, Spanish, French, German, Italian, Chinese, Japanese, Korean

### Display unit

- Any iPad Pro<sup>®</sup> with M2 chip<sup>2</sup>
- Screen resolution: up to 2732 x 2048 pixels
- Storage capacity: up to 2 TB

## Post-processing software

### Web version

- Running on Workspace personal cloud space

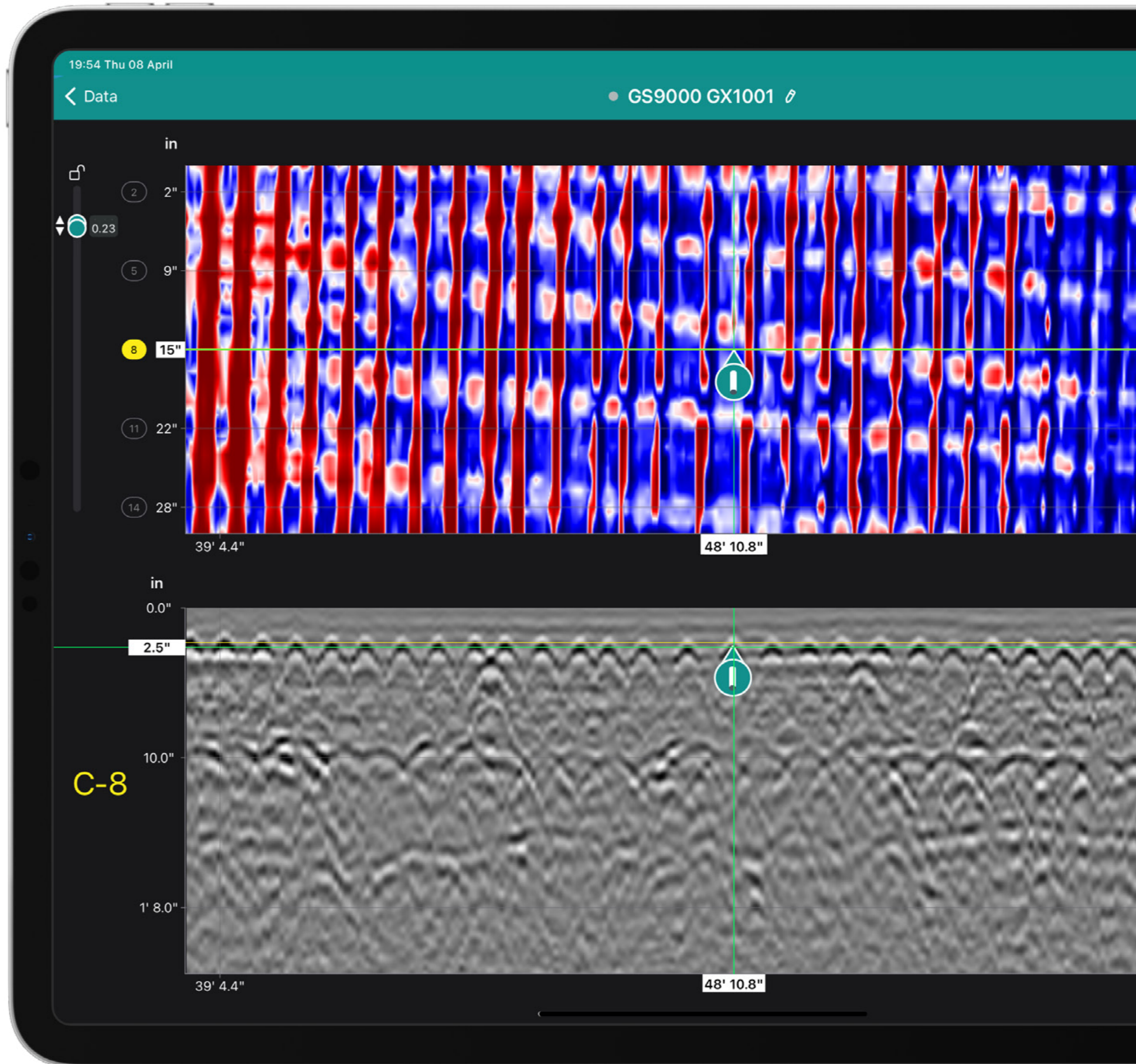
### Local version

- PC running Windows 10 or superior<sup>3</sup>

### Special modules

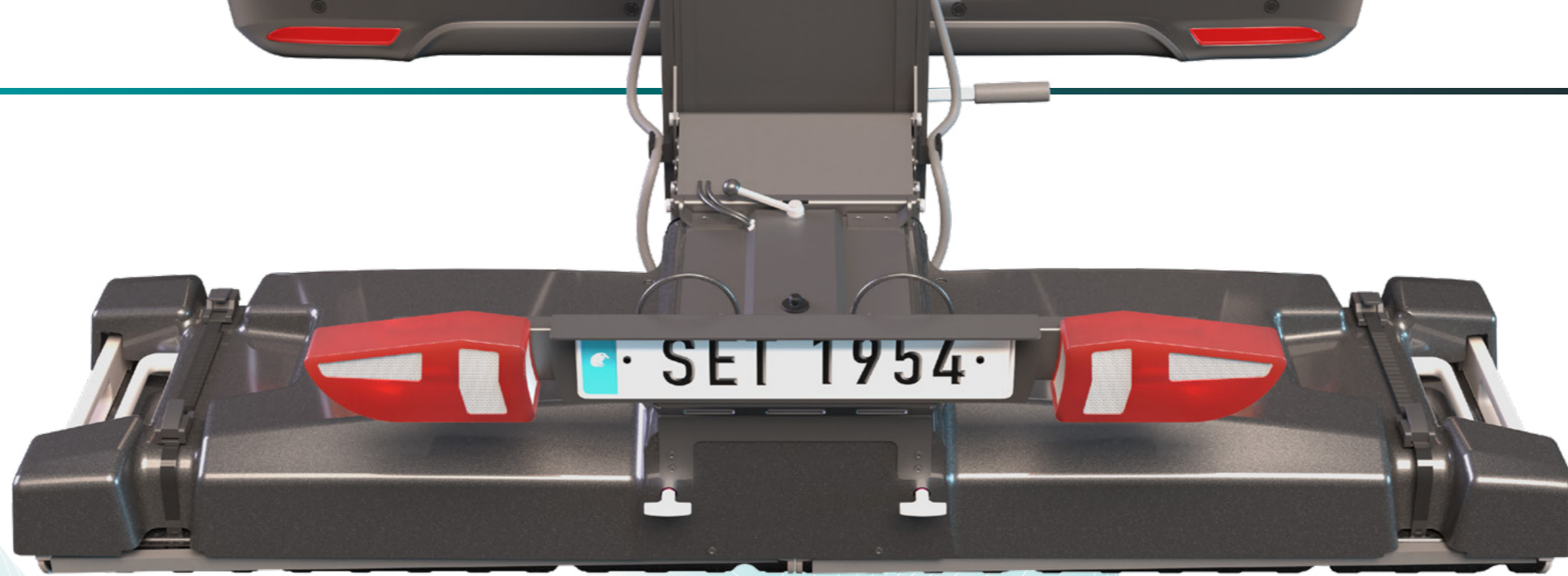
- 3D multichannel
- Utility Mapping
- Bridge inspection

1. Up to 1 TB of personal space per user ID  
 2. Running an up-to-date iOS version; recommended models: iPad Pro<sup>®</sup> WiFi + Cellular (2022 model or superior)  
 3. Recommended: x64 architecture, 1 TB hard drive, 32 GB of RAM memory, Full HD monitor





**GM8000**  
Multichannel  
mobile GPR



# All dimensions of subsurface mapping

**GS9000**  
Multichannel  
GPR cart



**GS8000**  
Single-channel  
GPR cart



