Subsurface Mapping

GM8000

Multichannel Mobile GPR
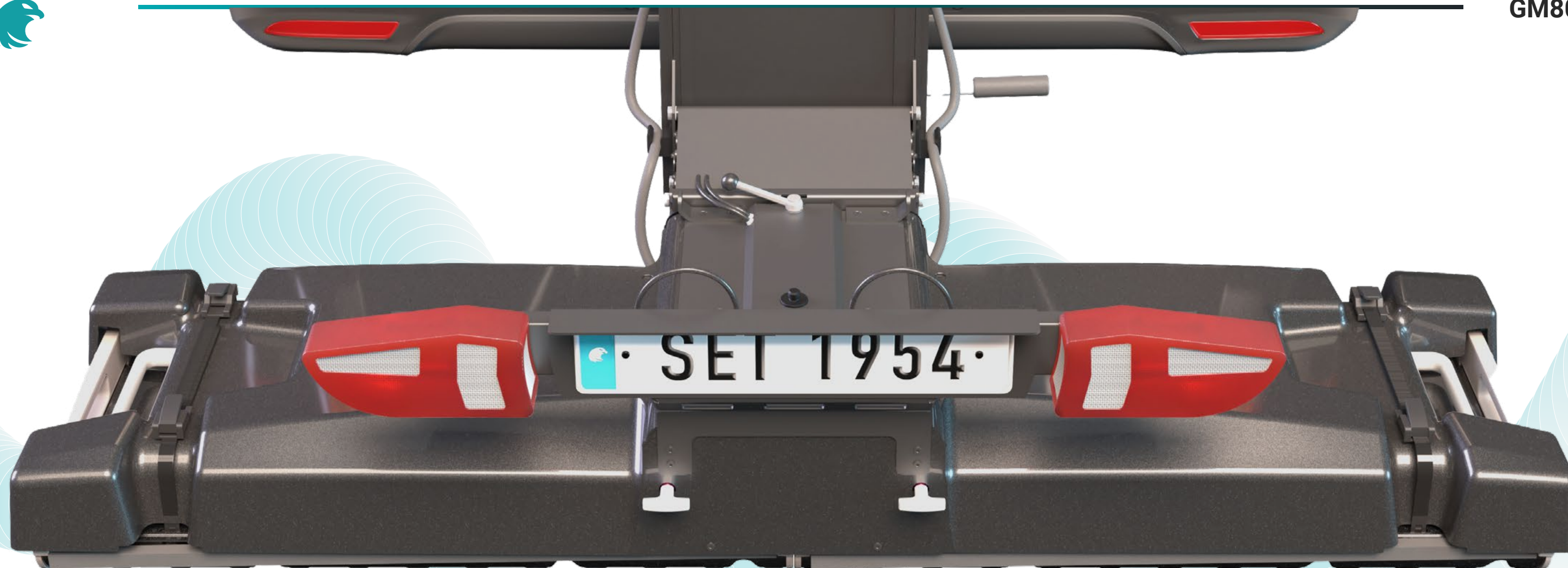
**See
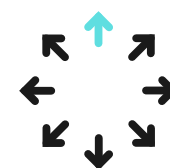Below
Ground**

SEI 1954

GM8000
Multichannel Mobile GPR

Large area scanning. Easy and modular.
High efficiency. Powerful data insights.

Versatile

Interchangeable GPR arrays for near surface and deep detection to scale your solution easily and approach new applications.

Efficient

Easy to set up, operate, and get insights from. Data collection at traffic speed and direct path into the office.

Accurate

The highest density of information in all three dimensions, accurately mapped even in challenging conditions.

Overview

Post-processing software to perform advanced, large-scale data analysis.

A **visual odometry** module to get reliable positioning in challenging environments.

Wheel sensor or integrated doppler radar to accurately know the **driving speed**.

A **computational unit** to sync and merge all field data together.

Field computer and **live app** to visualize the map of the subsurface while driving.

SWISS + MADE

Two high- or low-frequency **GPR arrays** to scan the underground.

Technology

Multichannel Stepped Frequency Radar

Outstanding data quality

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

Compatible GPR array modules

GX1

High frequency range

- For structural applications
- Ultra-high resolution in first meter
- Frequency range: 500-3,000 MHz
- 71 + 31 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
- 1.7 m wide swath - 23 channels
- 7.5cm (3 in) channel spacing

SWISS ✚ MADE

Technology

GNSS + Visual odometry + Deep Fusion

Dependable geopositioning

Keep a high-accuracy position even while driving through challenging urban scenarios at traffic speed.

GNSS positioning
Real-time trajectory

- Supports all GNSS constellations
- Compatible with RTK NTRIP corrections
- Centimetric real-time accuracy
- Configurable on 3 physical locations

Visual odometry
RTK outage correction

- Common feature tracking from camera
- Corrected by inertial & speed sensor data
- Accuracy depends on outage distance, not time
- All automatically processed at upload time

Software

Live tomography

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

Full control

Manage all sensors from an onboard MacBook with real-time visibitility and tools you need.
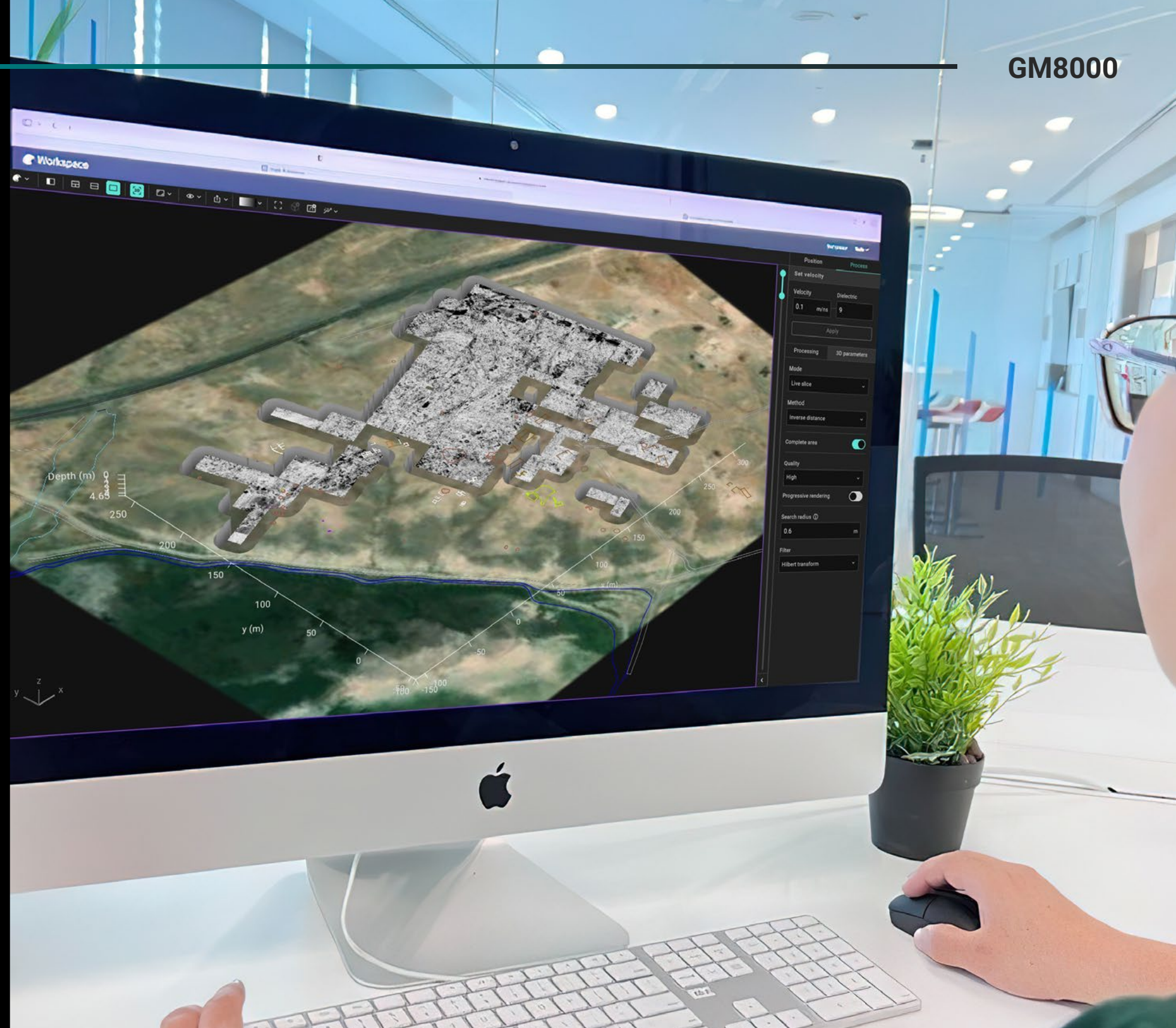
Intuitive data

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

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
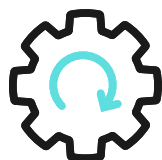
All powered by
Workspace

Cloud-connected workflow & services

Collect
Sync
Share

Streamlined workflow

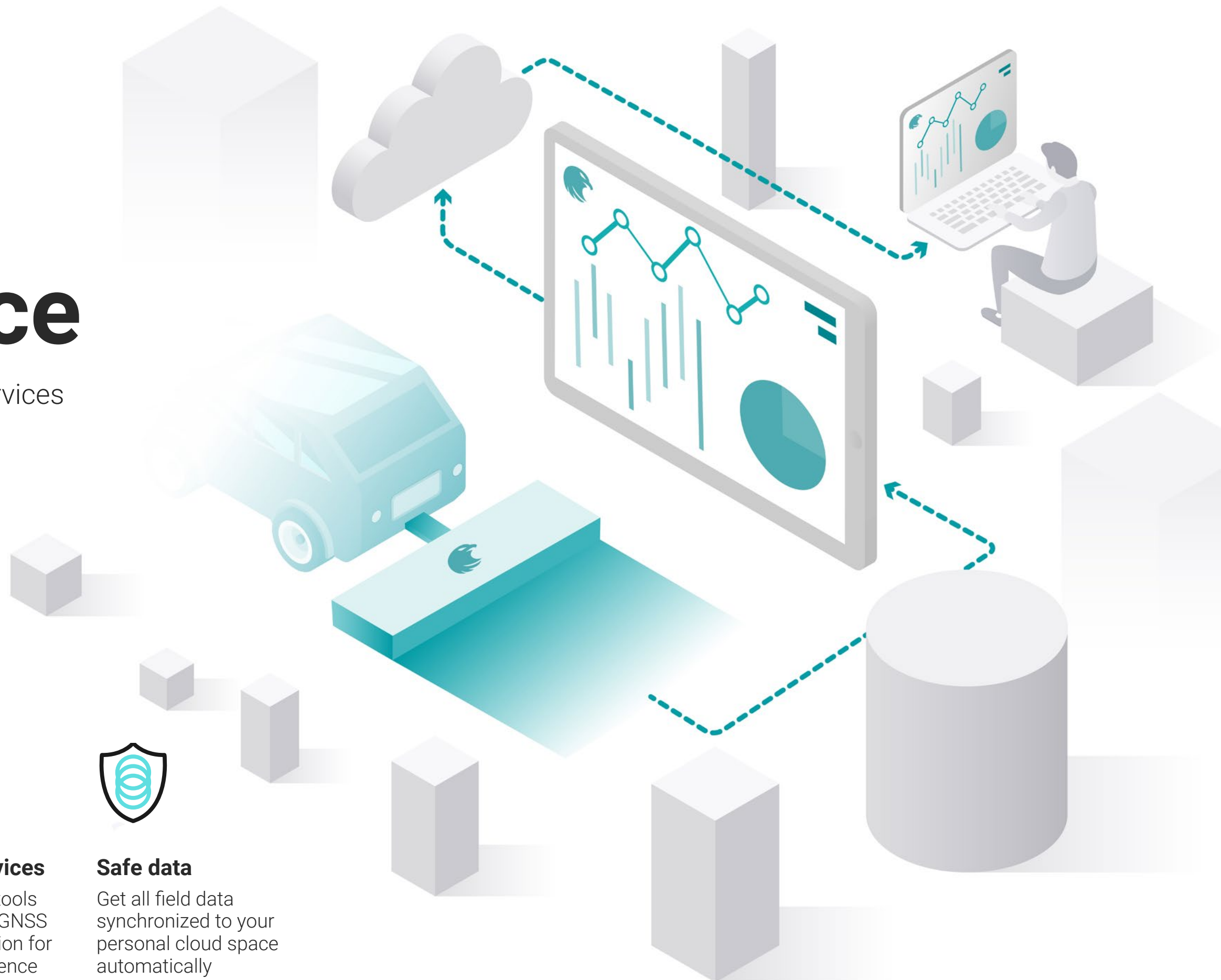Field data management, post-processing software and sharing options integrated in the same platform

Integrated services

Data conversion tools and services like GNSS trajectory correction for maximal convenience

Safe data

Get all field data synchronized to your personal cloud space automatically
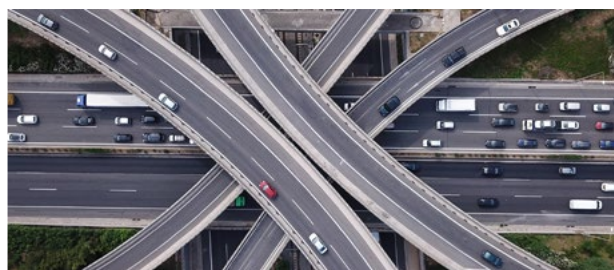
Applications
GM8000

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.

GM8000

Combined with **GX1**

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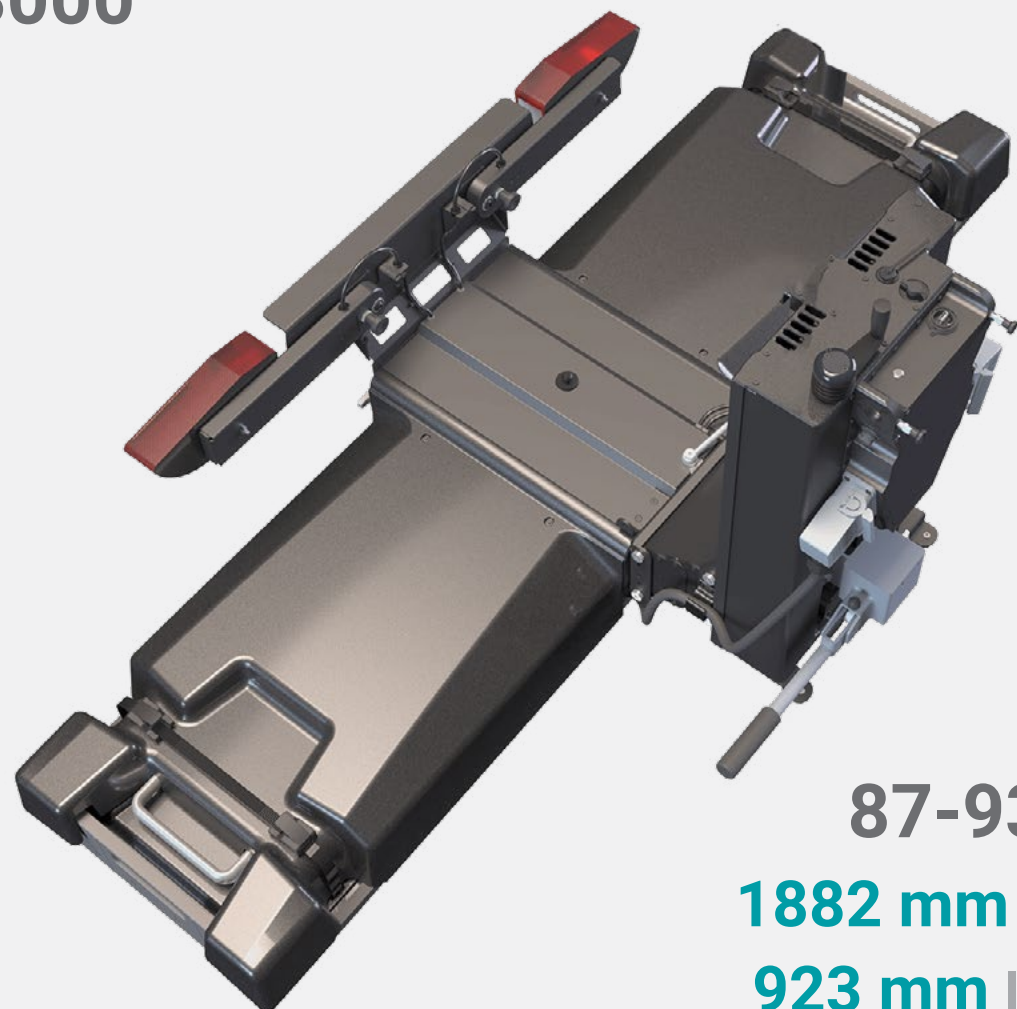Fiber cable detection and mapping

GM8000

Combined with GX2

Subsurface utility mapping
Underground cavity detection
Archaeological site prospections
Unexploded ordnance surveys

HW Specs

GM8000

87-93 Kg
1882 mm width
923 mm length

GX1 array module

500-3000 MHz

71 + 31 channels
2.5 cm spacing

GX2 array module

30-750 MHz

23 channels
7.5 cm spacing

High-frequency scanning

>50 km/h
@10 cm step size
45 ns time window

Low-frequency scanning

>80 km/h
@2.5 cm step size
130 ns time window

GNSS + Visual odometry

Real-time

NTRIP compatible
1-5 cm
RTK accuracy

Post-processing

Deep fusion
<0.1% drift / distance
RTK outage accuracy

SW Specs

gm [Download on the App Store]

Field software

Field Methodology	Field Calibration Options
Free Path	Doppler Radar
Live Image Processing	Wheel Speed
Time Slice View (geo-referenced)	Dielectric / Velocity
Hilbert migration	**Cloud Services**
Depth range adjustment	Live data synchronization to Workspace[1]
Dynamic Gain / Manual Gain	Trajectory correction by bundle adjustment
Sensitivity filter	Permanent data storage
Background removal filter	Raw data export to SEG-Y
Noise cancellation filter	Instant CAD / SHP / KML drawing generation
Frequency filter	Instant report generation
Live Display Options	Share via url
Satellite imagery	**Coordinate Systems**
GNSS trajectory	EPSG global database
CAD object layers	Local grid models
Spectral / seismic color palettes	Geoid models
On-Site Annotations	**Display Unit**
Tags	Any MacBook Pro®[2] with M2 chip or superior
Points of interest	Screen resolution up to 3456 x 2234 pixels
Voice markers	Storage capacity up to 8 TB

Post-processing software

| Web Version	Local Version
Running on Workspace personal cloud space	PC running Windows 10 or superior[3]
Special Modules	
3D multichannel	
Utility Mapping	
Bridge inspection	

1. Up to 1TB of personal space per user ID.
2. Running an up-to-date iOS version and with access to mobile data via hotspot.
3. Recommended: x64 architecture, 2 TB hard drive, 64 GB of RAM memory, Full HD monitor, Graphics card: nVidia GeForce 3070 or equivalent.
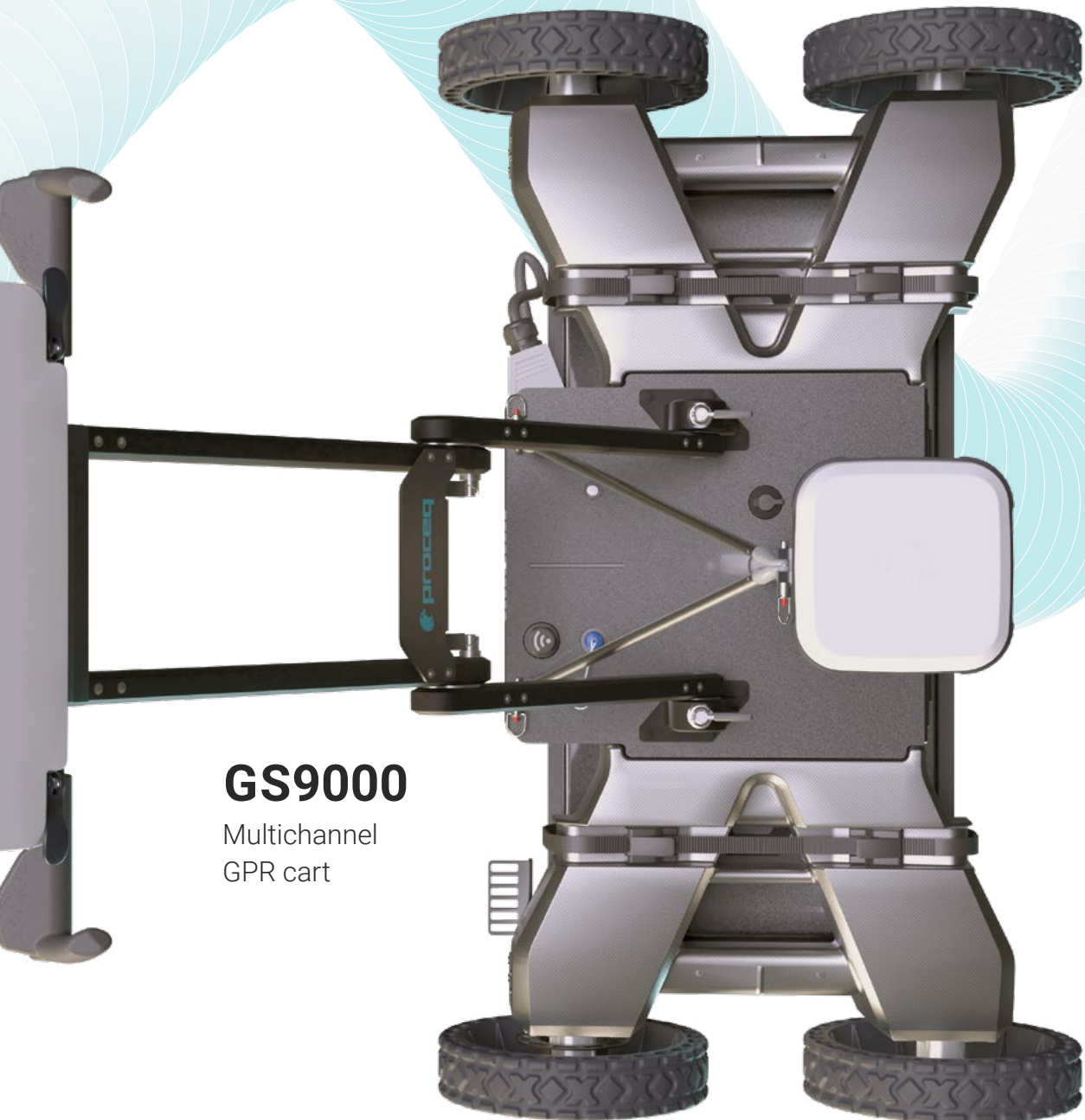
GM8000
Multichannel
mobile GPR

SET 1954
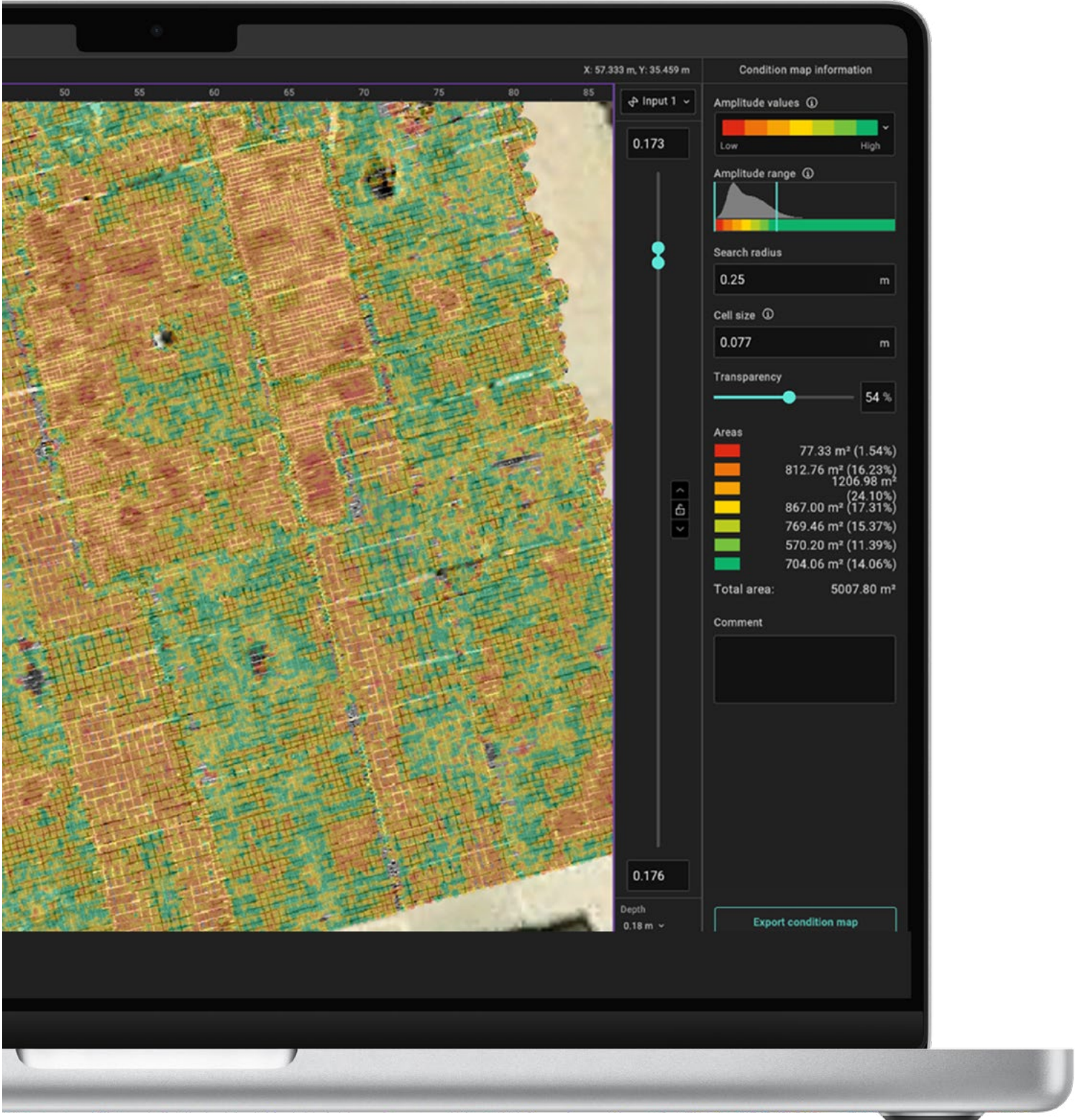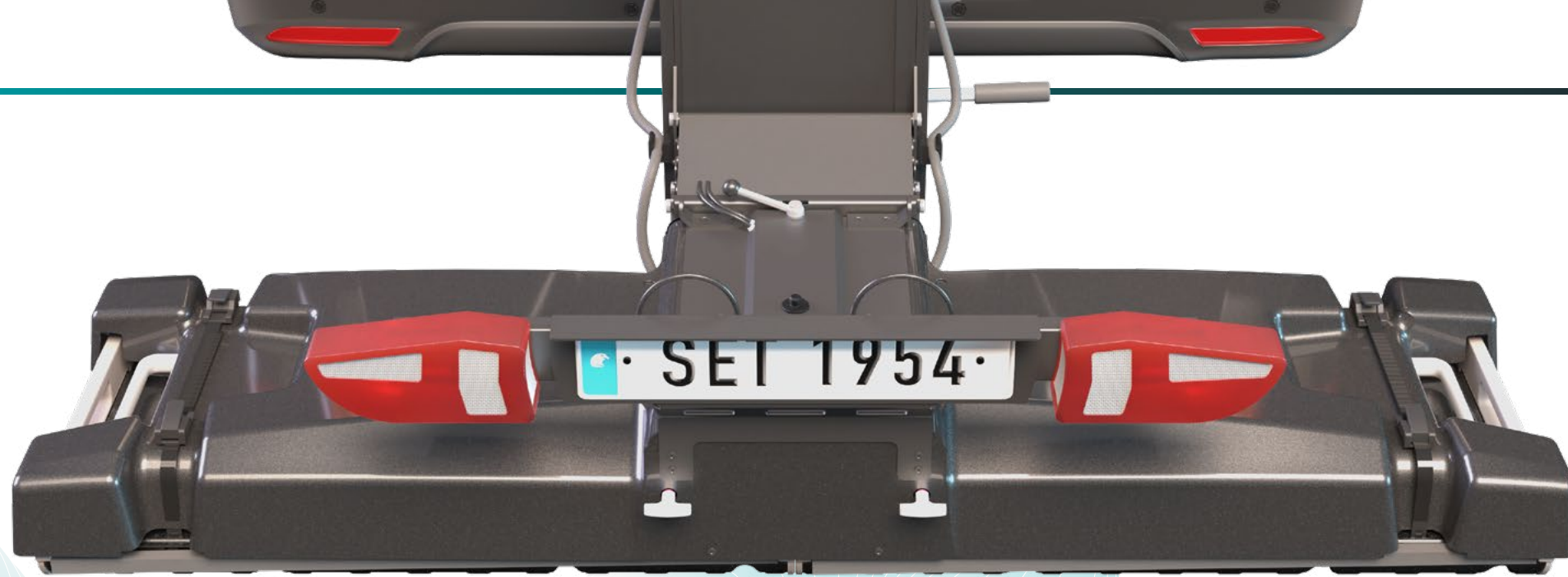
All dimensions of subsurface mapping

GS9000
Multichannel
GPR cart

GS8000
Single-channel
GPR cart

Company

Screening Eagle Technologies is a connected ecosystem of software and sensors for intelligent inspection of the built environment.

Our mission is to protect the built world and enable a society that is safe for all, is of high quality, operates reliably and is truly sustainable. We aim to democratize Built World Data, empower service professionals with easy-to-operate technology, and allow asset owners to make data-driven investment decisions. Together, we contribute to a society that gives back more to nature than it consumes, creating a built world for future generations to enjoy and thrive within.

HEADQUARTERS

Screening Eagle Technologies AG
Ringstrasse 2
8603 Schwerzenbach - Zurich
Switzerland
Headquarters: +41 43 355 38 00
Sales Europe: +41 43 588 34 92
Support Europe: +41 43 508 17 02

EMEA

Proceq AG
Part of Screening Eagle
Ringstrasse 2
8603 Schwerzenbach – Zurich
Switzerland
Sales Europe: +41 43 588 34 92
Support Europe: +41 43 508 17 02

Screening Eagle UK Limited
Bedford i-lab
Stannard Way
Priory Business Park
Bedford
MK44 3RZ
United Kingdom
T +44 1234 923816

Proceq Middle East and Africa
Part of Screening Eagle
Sharjah Airport International
Free Zone, P.O.Box: 8365
United Arab Emirates
T +971 6 557 8505

APAC

Screening Eagle Singapore Pte. Ltd.
1 Fusionopolis Way
Connexis South Tower #20-03
138632 Singapore
Singapore
T +65 6331 4151

Proceq Trading Shanghai Co. Ltd.
Part of Screening Eagle
Room 701, 7th Floor, Golden Block
407-1 Yishan Road, Xuhui District
200030 Shanghai
China
T +86 21 6317 7479
M +86 152 2162 8766

AMER

Screening Eagle USA, Inc.
117 Corporation Drive
Aliquippa, PA 15001
United States
T +1 724 512 0330

SCREENING EAGLE | proceq