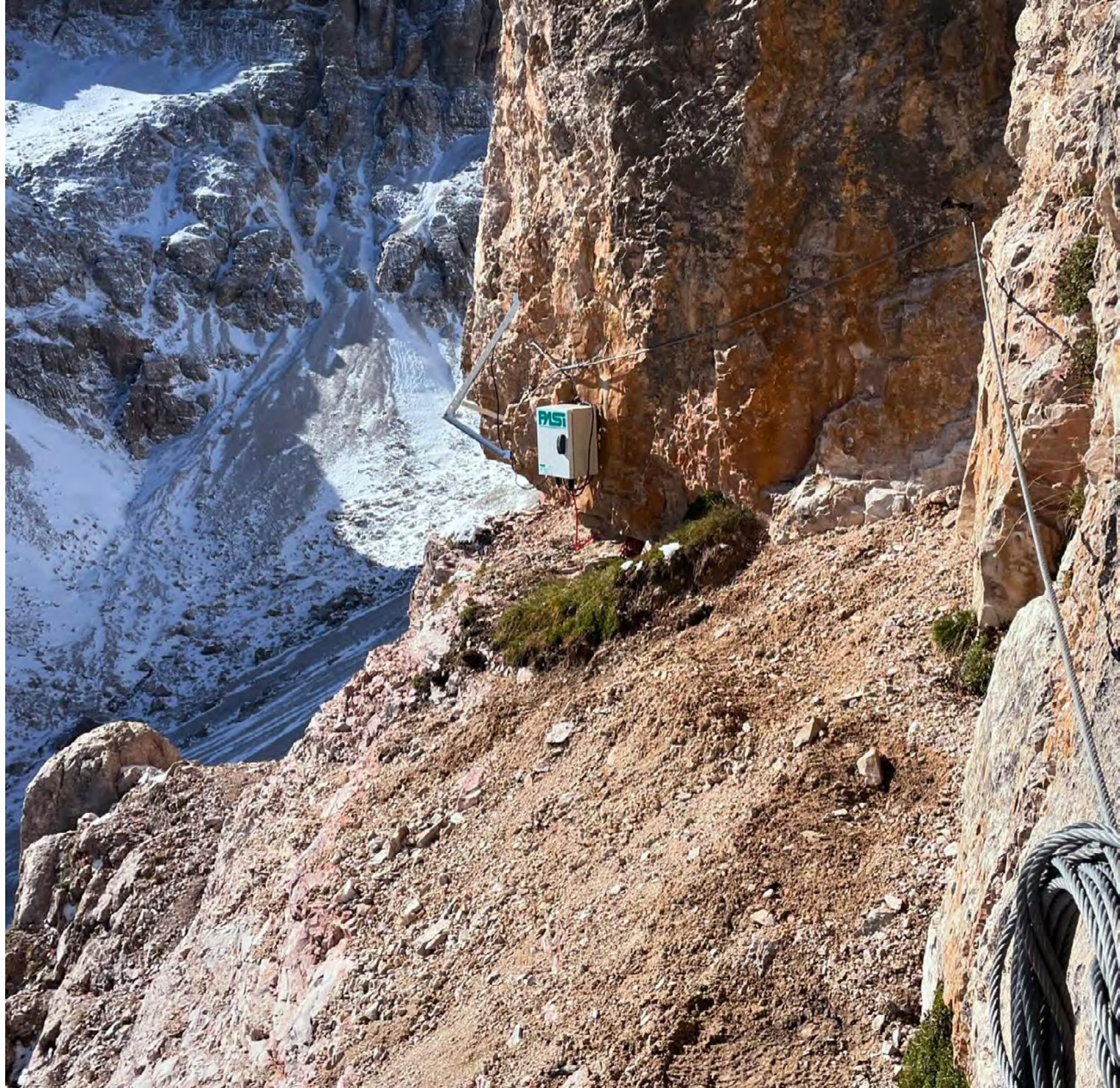
GEAGPS

Data acquisition system

FAST

GEAGPS

GeaGPS is a data acquisition system originally developed for continuous passive monitoring by tracking the evolution to failure in an early warning perspective - in addition or in alternative to remote sensing techniques



APPLICATIONS GEAGPS

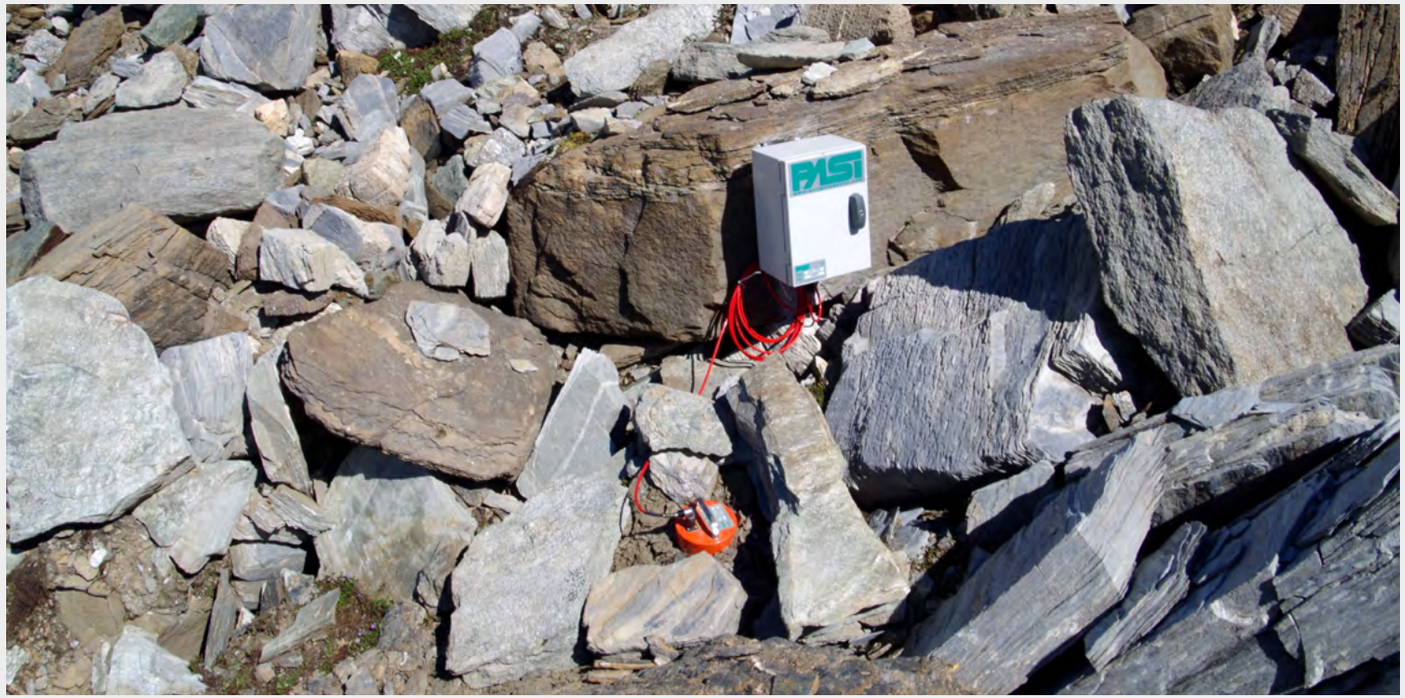
- Landslides and unstable rocky mass monitoring
- Glacial and Periglacial Environmental Monitoring
- Infrastructure Monitoring

  (artificial reservoirs, river banks etc..)

Microseismicity is induced by the landslide movement or pre-failure seismic signals: microfracturing processes within the unstable compartments release elastic waves that can be recorded by a set of spatially distributed sensors at the surface. These **seismic events** can be extracted from ambient seismic noise recordings by means of detection algorithms. Their classification, source location and temporal trends can help to **identify the most unstable compartments and track the evolution to failure.**

CONTINUOUS PASSIVE MONITORING

DISCOVER THE SOLUTION **GEAGPS**



In order to acquire seismic data for a long time in remote areas characterized by extreme temperature excursions and severe meteorological conditions (like the Italian Alps), GeaGPS was designed with internal batteries to warrant at least 1 month operations; the use of a solar panel can obviously extend the autonomy of the battery itself.

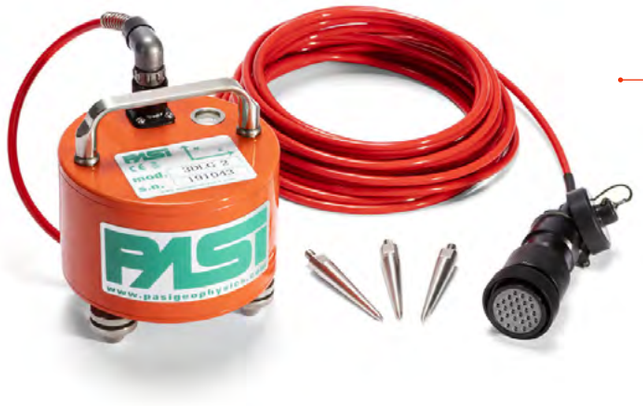
CONTINUOUS PASSIVE MONITORING

DISCOVER THE SOLUTION **GEAGPS**

Data from **3C-land geophones** (2Hz) are acquired by the 4-channel, 24 bit data acquisition board and automatically saved on the internal SD memory; the timing of the internal GPS allows the synchronizations of more GeaGPS units even if they are not physically connected together. This leaves the researchers free to choose the best location to mount each single station in the field, as any of them will be able to operate in total autonomy.

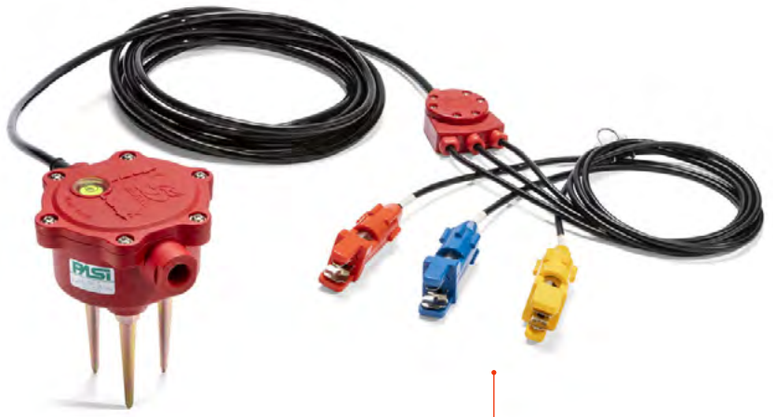
By installing an internal SIM, a SMS can be periodically sent to the Central Control Station with indication of Battery Charge, % Memory used, Temperature, etc… Thanks to this simple and low power consuming solution, the User will be able to verify remotely the operating conditions of the whole system during the long monitoring period.

ACCESSORIES
GEAGPS



3DLG-2

3D Land Geophone with 2Hz high-sensitivity sensor triad mounted in a robust waterproof container with bubble level. Complete with shockproof carrying case, calibration certificate, 3 rods for use on the ground + 3 adjustable rods for use on asphalt/rigid surfaces.



3D land geophone

2Hz or 4.5Hz - sensor triad in standard 3C shell with bubble level and 3 steel 75mm rods

TECHNICAL SPECIFICATIONS

GEAGPS

No. of Channel	4 channels, +/- 2.2 V (standard version for direct interface to 2Hz geophones)
Data conversion	24 real bits Sigma-Delta ADC
Power Supply	Internal battery for at least 1 month operation (standard version); other solution available on request (solar panels, etc...)
Data Recording	Internal Micro SD, 32 Gb (standard version)
Sampling Rate	User selectable, according to application requirement and memory
Data Output File	User selectable output file length (e.g in 1 hour you obtain 13.7 MB data @ 250 Sps)
Timing	Internal GPS (to allow the synchronization of all stations in the same monitoring system, even if they are not connected together) Primary GPS synchronization is 1kHz, acquisition resolution is then decimated to 250 Hz.
Connectivity (via optional SIM)	By adding an internal SIM, a SMS can be periodically sent to the Central Control Station with indication of Battery Charge, % Memory used, Temperature, etc.

Technical specifications are only indicative; they can be modified on request according to special application requirements

Via Galliari 5/E

10125 Torino - Italy

+39 011 6507033

sales@pasisrl.it

www.pasisrl.it