

# SUMMIT-SHM

## STATE-OF-THE-ART GNSS MOTION MONITORING SYSTEM

- High accuracy
- Early warning
- Reliable
- Autonomous monitoring
- Ideal for remote sites
- Cost-effective

SUMMIT-SHM™ is a cutting-edge motion monitoring system based on GNSS technology designed to deliver high accuracy 3D motion monitoring in real time.

The design is optimised for fixed man-made structures like dams, bridges, buildings and natural features such as landslides, volcanoes or ground subsidence.

### SYSTEM DESIGN

The system is composed of two elements –GNSS monitoring stations, and the SUMMIT-SHM™ central processing engine.

The monitoring stations can be easily installed on the points of interest without affecting previous systems or installations so it is ideal for retrofitting existing structures without disruption.

The communication between the monitoring points and the central processing engine is achieved through any available network infrastructure such as fibre optics, wireless or mesh.

### PROCESSING ENGINE

The high accuracy of the system is achieved by means of a Real-Time Kinematic processing of the GNSS signals and further advanced mathematical filtering to reduce measurement noise to a minimum.

### USER INTERFACE

The system has an intuitive user interface which shows the motion vectors of all the monitoring points

in a variety of easily understandable display modes. The system also supports the download of historic data for further analysis. SUMMIT-SHM™ can be locally accessed through a web browser from any computer connected to the local network. Remote operation is possible through using the SUMMIT Cloud.

## DESIGNED FOR AUTOMATION

SUMMIT-SHM™ is designed for long term unattended operation for efficient and trouble free monitoring. The open architecture enables easy integration with legacy instrumentation systems. Proactive supervision of the health of SUMMIT-SHM™ runs 24/7.

## SUMMIT CLOUD

The secure servers in the cloud give engineers secure access to data of all assets in near real-time from any location. All system parameters can be updated remotely and a web service module transfers the information to a secure webpage at regular intervals. All data queries and configuration can therefore be performed remotely.

## MODERN COMPACT DESIGN

SUMMIT-SHM™ uses a multithreaded and multitasking design on Linux 64-bit architecture. The processing engine is hosted on a compact hardware unit with no movable parts. It is capable of enduring harsh conditions, dramatically reducing the chances of hardware failure and ensuring trouble-free long term operation.

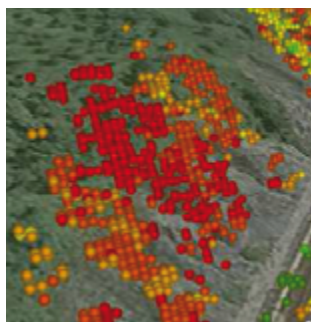


## USER DISPLAY FUNCTIONS

- Motion vectors over site map
- 3D motion information (vectors, azimuth, plunge, error estimates).
- Strip charts of historical data
- Warnings and alarms
- System status

## UNIQUE TECHNICAL FEATURES

- Up to millimetre-level accuracy
- Near Real-time
- Trend reporting
- Automated early warning
- Continuous data transfer (M2M)
- Integration with SCADA and legacy systems



## ADDITIONAL SERVICES

As a space specialist company Telespazio VEGA can provide complementary services to SUMMIT-SHM: InSAR for large area ground movement, delivering up to millimetric accuracy in the satellite line-of-sight. Satellite Communications to provide global access to your instrumentation data in remote locations.