

mmVu® LabCue
mmVu® LabTime
mmVu® LabSync

**GNSS Deformation Monitoring
 Post-processing Software**



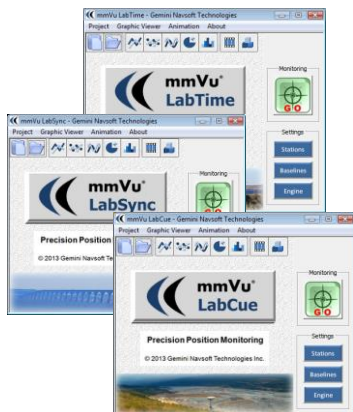
mmVu® GNSS Deformation Monitoring Post-processing Software comprises of a group of software packages which can process either single- or dual-frequency GNSS data for deformation monitoring. It adopts a unique, efficient GNSS data processing strategy that enables customers to reproduce real-time GNSS environments where the GNSS stations' data was collected.

Applied Technologies

The mmVu® Post-processing software standardizes various GNSS data files and streams the data to processing engines through the Ethernet TCP/IP and UDP communications. A unique data file wrapper application, which replicates mmVu® Real-time software operations and multicasts the data to each GNSS baseline, provides simulated scenarios identical to the real-time environments.

Features

The mmVu® Post-processing software fits various applications, and provides customers with necessary graphical tools for easier analysis and interpretation of the processed results.



- TDD and DDC solutions
- Adjustable and selectable filters
- Archive observations, solutions, and server activity
- Able to reproduce the real-time GNSS environments
- Structure specific coordinate system
- Input in industry standard formats
- 2D/3D graphic solution viewer

Application

The mmVu® Post-processing software is available for post-processing of GNSS data collected from applications such as civil structures, localized natural features and industrial applications. The mmVu® Post-processing software is particularly useful when customers need to reproduce the GNSS environments where real-time deformation monitoring was carried out.

Civil Structures	Bridges, Dams, Weirs, Dykes, Buildings, Towers, Breakwaters, Wind turbines
Natural Features	Volcanoes, Glaciers, Avalanches, Landslides, Ground subsidence
Industrial Applications	Construction sites, Railways, Roads, Mines, Offshore oil platforms, Tailings ponds



Performance

The mmVu® Post-processing software adopts the same mmVu® Engines to process data as the mmVu® Real-time processing software utilizes. It delivers mm-level accuracy, identical to that of the mmVu® Real-time processing software, even in situations where other software packages may compromise their performance due to challenging GNSS environments. Sub-mm level accuracy is also achievable under certain conditions.

mmVu[®] LabCue
mmVu[®] LabTime
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GNSS Deformation Monitoring Post-processing Software



mmVu[®] Post-processing Software Products

GNT offers three different types of mmVu[®] post-processing software products depending on its application.

mmVu [®] LabCue	Single-frequency GNSS data with up to 10 km baselines
mmVu [®] LabTime	Dual-frequency GNSS data with up to 100 km baselines
mmVu [®] LabSync	Single- and dual-frequency GNSS data

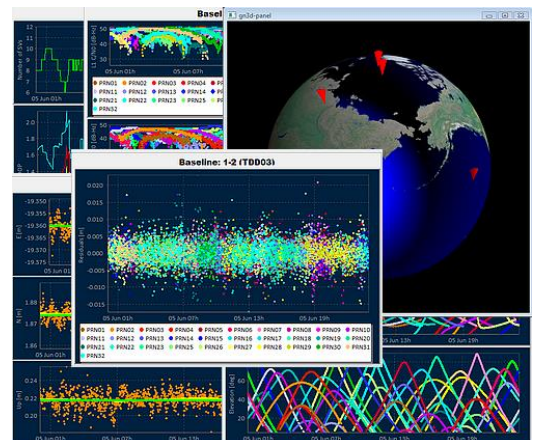
Each of mmVu[®] post-processing software products offers three variations that allow customers to choose the right one that fits ideally for their monitoring needs.

Variation	mmVu [®] LabCue / mmVu [®] LabTime / mmVu [®] LabSync
Basic	<ul style="list-style-type: none"> Economical: suitable for all budgets Generic Applications: fits most of the deformation monitoring applications Simple Configuration: fits small scale projects Easy site implementation, maintenance and operation
Plus	<ul style="list-style-type: none"> Optimal: suitable for medium budgets Oriented Applications: fits complex monitoring applications Medium Configuration: longer baselines and higher data rate Easy site implementation, maintenance and operation Movie production and 3D visualization
Premium	Available for projects with special requirements, and kinematic, dynamic and vibration monitoring with more than 10 Hz data rate, longer than 30 km baseline applications and more than 20 baselines simultaneous processing in challenging GNSS environments.

Capabilities (Example: mmVu[®] LabTime)

License Options	mmVu [®] LabTime Basic	mmVu [®] LabTime Plus
Filter Type	TDD, DDC	TDD, DDC
Monitoring Application	Real-time, Static	Real-time, Static
Data Rate	Up to 1 Hz	Up to 10 Hz
Baseline Length	Up to 10km	Up to 30km
No. of Baseline	Up to 5 baselines per processing	Up to 20 baselines per processing
GNSS Environment Challenge	Lower	Medium

Note: mmVu[®] LabTime Premium is available for customers who have to customize the license options for their special needs.



Data Processing Computer

Customers are recommended to refer to the PS100 Local Server computer Hardware Specifications to satisfy minimum performance requirements for their computers.