

New Zealand Modernises Infrastructure Network

The Institute of Geological and Nuclear Sciences (GNS) and Land Information New Zealand (LINZ) have jointly purchased 40 Trimble NetR9 GNSS reference station receivers as part of a project to upgrade the LINZ PositionNZ GPS network to multi-constellation GNSS and real-time data distribution capability. LINZ is the government department responsible for the geodetic infrastructure and land title system in the country.

The LINZ network of reference stations provides accurate control points for monitoring and developing the geospatial infrastructure of the country, conducting geoscience research as part of the GeoNet project, and performing commercial survey work throughout New Zealand. Users can access positioning data from the LINZ reference stations through live data streams and archived data distributed over the Internet.

"Data from the existing installed Trimble NetRS reference station receivers have been highly beneficial both in terms of post-event analysis such as the recent September 2010 magnitude 7.1 earthquake near Christchurch and for monitoring ongoing tectonic movements such as the slow slip events that occur regularly on the eastern side of the North Island," said Dr. John Beavan, principal scientist at GNS. "With the increased sample rate possibilities, low latency communication options and additional frequency channels that the Trimble NetR9 receiver provides, LINZ and GNS will be able to provide even more valuable positioning information, both in support of surveying and geospatial applications and for geoscience and natural hazards research in New Zealand."

The Trimble NetR9 reference receiver offers 440 channels for GNSS constellation tracking. The receiver supports a wide range of satellite signals, including GPS and GLONASS signals. The receiver is capable of tracking the experimental Galileo GIOVE-A and GIOVE-B test satellites for signal evaluation and test purposes.

The Trimble NetR9 reference receiver can be used as a standalone receiver or as part of a network solution. Specific applications include high-accuracy positioning as part of a Trimble VRS network, as a mobile field base station or CORS for Real-time Kinematic (RTK) corrections, as a scientific reference station collecting information for specialized studies, as a field campaign receiver for post-processing applications and as support for Differential Global Positioning System (DGPS) coastal beacons. The Trimble NetR9 reference receiver also can be used for monitoring the integrity of VRS networks as well as the deformation of physical infrastructure such as bridges, dams, mines, oil platforms and other natural and man-made structures.

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