SUCCESS STORY : RESOLUTE POLARS MONITORING REBOUND OF GREENLAND

ALERT GEOMATICS
A division of Xeos Technologies Inc.

Glacier melting in Greenland is a hot topic.

Most of the news about glacier melting is related to freshwater runoff and sea-level rise. Another, less talked about consequence of glacier melting is geodetic rebounding - or the rise of land caused by reduced pressure from the loss of thousands of meters, and thus tons of ice.

Denmark Technical University (DTU) has been working for over 10 years on an important project to monitor just this type of long-term geodetic rebounding in Greenland, with operational support from UNAVCO, a non-profit consortium of universities funded by the National Science Foundation. The Greenland project consists of 59 geodetic instrument stations located around the entire perimeter of the world's largest island (see map on other side).

This summer, Alert Geomatics, a division of Xeos Technologies, became involved in the project of upgrading the core sensing technology of the geodetic monitoring stations to the new low-power Resolute Polar GNSS Receivers with Iridium satellite communications. The new lower-power receivers reduced station battery requirements by half, which will help prolong the lifetime of the existing batteries.

For new stations in the remote polar regions, the lower power requirements means fewer batteries, which reduces logistical costs. The new Resolute Polars are also able to transmit more data at a lower power penalty having built-in micro heaters to help them survive the dark cold days of the Greenland winter.

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The upgraded network will continue to map the steady vertical velocity field associated with postglacial rebound and improve our understanding of ice mass changes in Greenland, allowing scientists to quickly detect, analyze and model any abrupt changes in the rate of ice loss in the region.

UNAVCO also provides operational support for Ohio State University geodetic monitoring program in the Antarctic, which is now also using the new low-power Resolute Polar GNSS Receivers.

For more on these closely related projects, please visit UNAVCO's web site at POLENET.

About Alert Geomatics

Alert Geomatics, a division of Xeos Technologies Inc., was formed to develop new geomatics products that combine the latest in GNSS receivers with advanced telemetry and embedded systems. Focusing on precise position monitoring, these products are used for subsidence monitoring, structural monitoring as well as for science applications including polar ice and volcano monitoring.

Alert Geomatics leverages Xeos's unique experience in developing autonomous products for operation in some of the harshest environments on earth. Having a solid background in GPS tracking, Iridium product development, and polar telemetry equipment, Xeos products can be found in all corners of the planet.

Xeos Technologies is a world leader in developing and marketing Oceanographic GPS and recovery beacons. Xeos is an Iridium Value Added Reseller and develops solutions with Iridium satellite technology.

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