GNSS Receivers for Difficult Environments

Aslanlar Insatt, a construction company specialising in infrastructure development, including highways, tunnels, dams, bridges and railways, has chosen the Ashtech ProMark 500 GNSS receiver to meet its GNSS survey needs. Aslanlar engineers compared four well-known brands in a series of head-to-head tests conducted in especially difficult, heavily shaded and multi-path, surroundings. Aslanlar was testing to find the receiver that would give them most precise 3-D coordinates for construction staking. The tests concluded that the Ashtech ProMark 500 consistently and significantly outperformed the competition in both accuracy and precision.

Aslanlar chose to test in particularly difficult environments to ensure good operability under all site conditions, even in the most rugged parts of Turkey. In addition, the company needed the GNSS receiver to map its own deep and steeply sloped quarry in Bandirma, Turkey. Aslanlar tests demonstrated the benefits of Ashtech's patented BLADE signal processing technology, which provides Aslanlar with the advanced multipath mitigation and high availability of satellites in difficult conditions that they need. Aslanlar purchased the Ashtech ProMark 500 from Geomatics Ltd, Ashtech's local dealer in Turkey.

Aslanlar uses the ProMark 500 to receive NTRIP type RTK corrections delivered via cellular GSM modem from the Turkey CORS network. In areas not covered by a GSM signal, such as their deep quarry, Aslanlar employs the ProMark 500 real-time correction bridge (RTC Bridge) to relay GSM/GPRS RTK network corrections to a rover deep in the quarry via a license-free radio. A license-free radio modem implements the RTC Bridge function of the ProMark 500 receiver. The RTC Bridge is a real-time network corrections relay that enables a network-connected rover to rebroadcast RTK corrections to multiple rovers via the license-free radio. The RTC Bridge also enables Aslanlar to operate several rovers working in the same area with only one of them connected to the network for a single subscription and communication cost.

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