Magellanâ€™s BLADE GNSS Signal Processing

Magellan (France) has announced its BLADE technology, a proprietary GNSS processing solution that makes possible centimetre-level accuracy for real-time and post-processing surveys and mapping operations.

Magellan's BLADE (Base Line Accurate Determination Engine) combines ranging and carrier phase data from two satellite systems, GPS and SBAS, for superior satellite coverage and signal reliability to enable rapid, centimetre-level solutions.

It is the first GNSS processing system that uses SBAS ranging and carrier phase measurements in the RTK data processing. These SBAS measurements, which are GPS-like, improve satellite geometry to allow centimetre-level accuracies to be achieved in a shorter time compared to GPS-only algorithms. Although other processing systems use the SBAS correction message to achieve sub-meter positioning, BLADE is the only GNSS processing using SBAS ranging and carrier phase data in the RTK computation.

BLADE processing is designed to provide rapid initialisation. Initialisation times will vary depending on SBAS availability and sky conditions. For example, the addition of one SBAS satellite improves the time to ambiguity resolution by 50%, and the addition of two SBAS satellites improves this time by 75%. In open-sky environments the time to reach centimetre-level accuracy is almost always less than one minute when two SBAS satellites are in common view.

https://www.gim-international.com/content/news/magellan-s-blade-gnss-signal-processing