

The future of satellite delivered GNSS corrections and linked services

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Precision agriculture is a major consumer of corrected GNSS services. Depending on the application and receiver/guidance system, GNSS corrections services can provide accuracies from 1 metre down to 2 centimetres.

Farmers who adopt precision farming techniques use a variety of technologies, practices and devices when managing their farms. A major enabler for this has been the rapid uptake of in-vehicle satellite navigation and guidance systems. The move from GPS to GNSS and advancements in associated technologies allows farmers to use a more scientific approach to their decision making. Farmers in the current Australian market use maps and spectral products sensed using aerial and satellite imagery to form the GIS of their farm.

Over the past decade we have seen the accuracy of GNSS corrections services improve from the sub metre level to the centimetre level together with technical advancements in service delivery. Wide area DGPS accuracies have improved from sub metre to the 5 cm level. Single RTK base stations have expanded into shared base station networks with corrections delivered via radio (RF). Government and private companies have networked RTK base stations and developed CORS Networks and are delivering correction services via the Internet (IP). The next stage of development sees RTK services delivered via satellite.

Today we use and trust satellite navigation in our daily lives. Real time accuracy has improved over time. With the latest atmospheric modelling and hardware advancements we are now able to receive RTK accuracies via satellite. In the future we will be able to receive and transmit real time data in a dynamic world coordinate system into the world markets.

