



## **Network Corrected Real-Time Kinematic - Infrastructure Partnering between Industry and Earth Sciences**

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The rapid deployment of GNSS sensors in the form of continuously operating reference stations (CORS) both as stand-alone CORS and as networks of CORS grouped by function or administration provides a tremendous opportunity for partnering and development of joint resources for science and industry. The drivers for development of early GNSS networks and the funding thereof typically came from specific user segments like surveying, mapping, construction, public safety, structural integrity monitoring, precision agriculture, science and academia, often developed and operated centrally via a single entity. Such an approach would often result in duplicity of effort and limited utility for expanded or enhanced uses. The more recent trend is towards serving multiple user segments both in design and administration as cooperative networks.

Implementation and utilization of GNSS networks has a longer history in geophysical sciences of academia and federal geodetic services than in the surveying, construction and mapping sectors, and only of late in more commercial and consumer level ventures. Such legacy infrastructure is more typically utilized in a post-processed mode. The more recent boom in the development of CORS has been in support of real-time kinematics uses like surveying, mapping, and construction. Network corrected real-time infrastructure, more commonly referred to as RTN (real-time networks) applies multiple scientific approaches in providing sub-centimetre 3D positions for mobile users (rovers) and even tighter results for server-side motion-engine processing.