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## Developing a highly-available GNSS reference station network

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Having modern and well-maintained geodetic infrastructure is critical for the development of an accurate and reliable Global Geodetic Reference Frame (GGRF). Geoscience Australia (GA) contributes to the development of the GGRF through a network of Global Navigation Satellite System (GNSS) reference stations positioned in key locations across Australia, Antarctica and the Pacific. Data from these reference stations contribute to the realisation of the GGRF, the development and maintenance of the Asia-Pacific Reference frame and the monitoring of deformation across the Australian continent. We are also seeing a rapid increase in the use of this data for location-based positioning applications, such as civil engineering, transport, agriculture and community safety. These applications bring with them a new suite of challenges for geodetic infrastructure operators, such as reduced data latency, denser networks and accessing the latest signals in the most modern formats. Through the Positioning Australia program, GA is addressing these challenges by developing a modern highly-available GNSS reference station design that will be deployed at over 200 sites across the region. This paper discusses the concept of highly-available infrastructure and presents a GNSS reference station design that is openly available for use by the global geodetic community.