

# The Applications of Sacredion Online GNSS Positioning Service (SOGPOS) for Real-Time Kinematic GNSS Correction in Asset Mapping and Management

Okorochoa Chika and Raphael Ehigiator (Nigeria)

**Key words:** Access to land; GNSS/GPS; Land management; Positioning; Reference frames; Reference systems; Spatial planning; CORS

## SUMMARY

In this paper, the Sacredion Online GNSS Positioning Service (SOGPOS), a network of ten (10) Continuously Operating Reference Stations (CORS) is explored. SOGPOS infrastructure includes a network of CORS, communication channels, data processing, distribution system, user management, maintenance, and coordinate system in International Terrestrial Reference Frame (ITRF) 2014. The paper discusses the importance of establishing a reliable and accurate GNSS infrastructure to provide positioning data to users in various sectors, such as transportation, agriculture, construction, and surveying. The SOGPOS system is a cloud-based GNSS positioning service that provides static GNSS data and real-time high-precision positioning correction to users in Nigeria. The SOGPOS CORS network was established in collaboration with the Nigerian Institution of Surveyors at various state branches. The paper highlights the SOGPOS user management features, GNSS Services availability, and reliability of the positioning data. Finally, the paper concludes by discussing the potential of a GNSS infrastructure such as SOGPOS in advancing various sectors and improving the accuracy and reliability of positioning data in city development, mining, and exploration, deformation monitoring in buildings, natural disaster monitoring, and weather forecasting, for the purpose of ensuring the sustainability of natural and manmade assets in line with the United Nations Sustainable Development Goals (SDGs).

---

The Applications of Sacredion Online GNSS Positioning Service (SOGPOS) for Real-Time Kinematic GNSS Correction in Asset Mapping and Management (12563)  
Okorochoa Chika and Raphael Ehigiator (Nigeria)

FIG Working Week 2024

Your World, Our World: Resilient Environment and Sustainable Resource Management for all  
Accra, Ghana, 19–24 May 2024