



LAGOS CORS



In June, 2007, the Executive Governor of Lagos State, Mr. Babatunde Raji Fashola SAN set up a five man Advisory Committee of experts to deliver a fully digital mapping and enterprise Geographic Information System (GIS) for Lagos State. With the former Surveyor- General of the State, Surveyor M. A. O. Durowoju as Chairman, the Committee was mandated to examine and recommend the best sustainable mapping and GIS solution for Lagos State.

As a result of the Advisory Committee's findings, a Technical Committee under the Chairmanship of Dr. Femi Hamzat, the Hon. Commissioner for Science and Technology was constituted to examine and recommend the best methodology and companies to deliver the project.

GeoQinetiq Limited the leading geophysical, geospatial and logistics solutions provider in Nigeria - was thus awarded the contract to design, install and commission the State's first Continuously Operating Reference Station, (CORS), and train GIS and Geomatics professionals from the office of the Surveyor-General of Lagos State in the operations of the system. To deliver this project, GeoQinetiq contracted with Leica Geosystems to supply the GNSS reference station and networking software.

The Lagos CORS GPS reference station benefits users by providing highly accurate, reliable & consistent positions 24 hours a day 7 days a week. GPS users can work at any time, and use the Reference Station to establish precise results.

The operating range of this initial CORS extends to 30 Kilometres, serving the immediate and surrounding facilities of the Office of the Surveyor General of Lagos State. The reference station:

- ✓ Tracks the GPS and GLONASS Satellites, receiving and storing the data transmitted by the satellites.
- ✓ Monitors the performance of GNSS equipment at the reference station.
- ✓ Manages the data and makes it available for users. This includes two techniques, which occur simultaneously:
- ✓ Records and stores GPS data for 'post processing' and
- ✓ Transmits data for use in real time field positioning.

- ✓ Converts the observational data available to the receiver independently exchange (RINEX) format so that these data are available for use with data from various types of GPS receivers and with various types of GPS processing software, thus expanding the user base to all.
- ✓ Brand compatibility provides complete flexibility in selecting GPS equipment for the various applications and is not tied to any single brand or provider.
- ✓ Users will be able to download the data within a few days after the fieldwork is completed. While the real time data is immediately transmitted to users by radio and cellular phone.

For surveying and engineering, GPS Reference Stations reduce the need for an extensive network of physical control point monuments. Field crews can start work immediately. There is no need to set up a reference station or rely on survey crews to set up local control points. The CORS also eliminates the need to spend hours in the field trying to locate removed or destroyed survey markers. *The GPS Reference Station or CORS functions as the Control Point, and serves potentially unlimited users and applications simultaneously*

The benefits to the survey/ GIS / Construction community are:

- Reduction in person hours to accomplish a task
- Reduction in the amount of purchased equipment required to accomplish a task
- Reduction in the number and kinds of purchased software required for jobs.

While one CORS can provide immediate benefits to the Survey and construction industry, multiple CORS are required to provide a State-wide network. A Network of GNSS Reference Stations can serve an entire community of users (surveyors, engineers, researchers, State Government officials) *by delivering immense technical benefits, increased productivity, cost effective delivery of precise measurements - greater advantages than were envisaged at the inception of the project. CORS facilities will play an increasingly more important role in Civil Aviation, Transport, Agriculture, Emergency Services,*

Transport, etc. for the benefit of the State. The Governor and people of Lagos have GeoQinetiq's commitment to ensure continuous upgrades of the system, so that it remains as today, at the cutting edge of modern geodetic technology.

Eko O Ni Boje O!



Juliet Ezechie, Managing Director, GeoQinetiq Limited

ACADEMIC HISTORY

- University of Wales (Mathematics)
- Nottingham University (Space Geodesy)
- University of London (Ionospheric scintillation effects on GPS receivers during solar minimum and maximum)

CAREER

- Rascal Decca / Thales Navigation (deployment of the 1st Global differential GPS system - Skyfix™).
- Leica Geosystems (Global Navigation Satellite System Technical and Project Manager)
- European Commission (Project Manager, Navigation and Air Traffic Management)
- European Commission (Ground Mission Segment for the forthcoming European Global Navigation Satellite System, Galileo)
- Leica Geosystems (Specialist Project Manager, 1st national British Network RTK (CORS) service.
- GeoQinetiq Limited (Managing Director)

