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## **GSM based parameters monitoring system for oil and gas industry in Nigeria**

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Oil and gas resources are Nigeria is located in the Niger Delta which is situated in the Gulf of Guinea. The Niger Delta is a sedimentary basin having only one identified petroleum system (Akata –Agbada). It is formed at the site of a rift triple junction related to the opening of the southern Atlantic starting in the Late Jurassic and continuing into the Cretaceous. It has an accumulated sedimentary cover of up to 10 km at some places. Oil is produced from sandstone facies within the Agbada Formation. An estimated 34.5 billion barrels of recoverable oil and 93.8 trillion cubic feet of recoverable gas have been discovered in the Niger Delta. Due to poor infrastructural development in the area, accessibility is often hampered, exposing valuable assets, equipment and installations to pipeline vandals and oil thieves, with fewer restraints from the law enforcement agencies. The paper discusses a remote monitoring system based on GSM technology that monitors the critical oil and gas industrial parameters and sends alerts and text messages when the preset conditions are reached or exceeded to the designated addresses as an advanced means of circumventing the identified lapses in oil equipment and installation security by the researchers. The work is realised by the interface of three major blocks of input unit, the host controller and the output unit. Software programme were written and developed to drive the system. From the analysis and results of various tests carried out, the paper concluded that the implemented technology for the system is capable of delivering the expected performance and desired reliability level

### **Biography**

Obi Williams J D is a Lecturer in the School of Industrial and Technical Education of the Federal College of Education (Technical) Umunze in Anambra State Nigeria. He has put in over 15 years in tutoring, research and community service and served the institution as Head of Department, Electrical and Electronics as a research advisor and project supervisor.

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