

## **Mission results from the first two years of NigeriaSat-2**

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**Abstract:** The manufacture of the NigeriaSat-2 spacecraft was completed in 2010, and was successfully launched in August 2011. This is a state-of-the-art small satellite Earth observation mission including several innovations not previously seen on small spacecraft, which provide high duty cycle imaging of the Earth in high resolution. It is being used by the Nigerian government for mapping, and monitoring a number of environmental issues within the country. The key requirements for the spacecraft are to provide high volume mapping data, coupled with highly accurate image targeting and geolocation, and sufficient agility to enable a wide range of complex operational modes.

An overview is provided of the first two years of operation of NigeriaSat-2, the challenges encountered in the project, the lessons learned, as well as the range of applications which are being addressed by the mission.

A three-satellite constellation based on the NigeriaSat-2 spacecraft design, DMC-3, is in production for launch in 2014. The opportunities of such an imaging constellation to provide higher temporal resolution for mapping are discussed.

Keywords: High resolution imaging satellite, spacecraft