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SARA – SYNTHETIC APERTURE RADAR CONSTELLATION FOR AFRICA

Abstract

The Synthetic Aperture Radar Constellation for Africa (SARA) represents a new approach to using the advances in SAR technology to build a dedicated constellation of SAR satellites for an application specific deployment.

Micro-satellite technology and SAR technology has advanced to the point where cost effective micro-SAR satellites have become a reality. The performance improvements due to phased array payloads and constellations of satellites, opens the opportunity to address key applications in a way that is commercially viable. One can take advantage of a significant increase in the performance or a significant decrease in size of satellite, based on advances in satellite technology. Smaller satellites in turn would provide the potential for a greater number of satellites leading to an overall improved system performance.

A number of commercial SAR constellations have been proposed. The current collaboration framework in Africa, would enable complementing existing capabilities to address particular African resource management in a number of key economic areas. In the user requirement process of the ARMC, regular SAR data has been pointed out as a key requirement.

The paper will review the user requirements for SAR data in Africa against commercial constellations and the impact of technology advances that are proposed for the pathfinder SAR satellites, currently being funded through various programs. The benefit of advances in technology means one can expect a constellation that is optimised for a specific application and that satisfies commercial funding requirements.