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International cooperation in using space for sustainable development: Towards a "Space2030" agenda (1)

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THE AFRICAN COLOCATION PLAN

Abstract

Initiated by the South African SKA Project, the African VLBI Network (AVN) inspired a larger, more integrated programme across eight nations, and is achieving in making science investible.

The African colocation plan allows for the colocation of science instruments, satellite data receiving ground stations, passive tracking radar for African aircraft security, anti-poaching and anti-trafficking applications, as well as data processing infrastructure and transport solutions.

Thus colocation development in the African Partner Countries (APC) can be viewed as developing an overall technology and skills readiness towards national science and technology growth for each partner and Africa overall.

Each APC Site is able to address human capital and skills development, sustainability, African technology infrastructure and science goals as well as industry development and revenue generation in partnership with industry. The model of cross subsidisation and collaboration generates partnership, revenues, opportunities, training and skills transfer and wider socio economic benefits.

The colocation model allows for sustainable revenue generation for programmes and ongoing operations to provide employment and training opportunities in radio astronomy, engineering and technology areas, data administration and management skills.

In addition, the programme generates value added data solutions from data applications of earth observation data, with many uses from encompassed by food security, including agricultural and environmental monitoring, illegal fishing monitoring, poaching mitigation, fire tracking, disaster management, resource management and more.

Other colocated technologies will be the passive radar solution, which will contribute to conventional aircraft tracking and aid in border security in terms of illegal trafficking activities, both on land and sea. It is intended to also host Space Based Augmentation System (SBAS) stations as well as Geodesy and other space science instrumentation.

The unique collaborations and ownership structures of each of the elements of the colocation programme provide for transparency, fairness and growth with no one owner and multiple partnerships.

The vision of the long term programme is for Africa to develop and host an integrated satellite ground station and fibre network, science instrumentation networks, a VLBI network and ultimately African built and owned satellite constellations.