

## **Outcome and resolutions of the Fourth Ministerial Meeting of the Square Kilometer Array (SKA) African Partner Countries (2017)**

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1. Ministers and representatives of governments of Botswana, Ghana, Kenya, Madagascar, Mauritius, Mozambique, Namibia, South Africa and Zambia met on 24 August 2017 in Accra, Ghana, as the African SKA consortium that is preparing for the eventual implementation of Phase 2 of the global SKA project in their countries.
2. Their purpose in meeting was to review progress against three joint flagship projects – namely the African SKA, the African VLBI Network, and the Big Data Africa initiative – through which the African SKA is preparing itself for the implementation of SKA Phase 2.
3. At the meeting, Ministers and representatives signed a Memorandum of Understanding for Institutionalising Cooperation in Radio Astronomy.
4. The meeting received presentations on the above flagship projects, on progress in implementing joint communication and funding strategies, and on a project examining the impact of these flagships on human capital development in consortium member countries. The Ministers expressed their satisfaction with developments on each of the flagships and other initiatives presented to them, and noted recommendations from the Senior Officials on further work that will be done.
5. The Ministers agreed that they would lead on integrating the Big Data Africa project into the various regional Industrialisation Strategies.
6. Each member country also presented an overview of relevant domestic developments. The Ministers were most impressed and heartened by the progress that was reported. As a collective, the African SKA partners reported significant advances in (a) human capital development initiatives, (b) establishment of relevant institutional arrangements to coordinate and support domestic AVN/SKA-related activities, (c) formulation of new academic programmes around physics and astronomy, (d) AVN site selection processes, and (e) the roll-out of high performance computing capability.

7. The Ministers noted a Document produced by the SKA project that sets out a generic framework for taking forward the identification of SKA phase 2 sites in consortium member countries. The Document makes the point that the development of a more detailed roadmap of this process will require bilateral engagement between the relevant country and the SKA project office, that also takes into account relevant decisions in the international SKA project. Consultations in this regard will be initiated in 2018, and the Ministers approved the Document as a planning framework for such consultations.

8. The Ministers noted the following developments, in particular:

- Botswana: researchers have begun utilising the supercomputer racks placed at the University of Botswana under the Big Data Africa project across a wide range of data intensive fields, including speech recognition;
- Ghana: cooperation between the South African SKA project and Ghanaian institutions has resulted in the launch of the Ghana Radio Astronomy Observatory and the Kuntunse AVN telescope;
- Kenya: a working committee involving government officials and representatives of universities has been established to coordinate Kenya's radio astronomy and related high performance computing activities;
- Madagascar: a new national radio astronomy institution has been established and the radio dish at Arivonimamo has been secured for conversion under the AVN project;
- Mauritius: has established a dedicated Master's degree in astronomy and intends offering up to 5 bursaries for this programme to students from other African countries annually;
- Mozambique: a two-dish antenna interferometer and a 20 PC computer laboratory will be established at Eduardo Mondlane University, and three academics have completed their PhDs;
- Namibia: two super computer racks have been delivered to Namibia and are being operationalised and 10 additional computers have been successfully installed at two universities;
- Zambia: the Zambian government has secured the Mwembeshi site for refurbishment of the decommissioned telecommunications dish, as well as a possible SKA Phase 2 site at the Kasempa.

9. The Ministers specifically congratulated Ghana on the pending launch of the Kuntunse radio astronomy telescope and the establishment of the Ghana Radio Astronomy Observatory, and noted the support provided by the South African SKA project in these initiatives.
  
10. The next Ministerial and Senior Officials' Meeting of the African SKA partnership consortium will be held in mid-2018 in South Africa.