



STATEMENT BY THE SQUARE KILOMETRE ARRAY OBSERVATORY

The 61st session of the Legal Subcommittee of the United Nations Committee on the
Peaceful Uses of Outer Space

**AGENDA ITEM 14: General exchange of views on the application of
international law to small-satellite activities**

Read by: Theunis Kotze (SKAO Head of Legal)

Date: 30 March 2022

Check against delivery.

Chair,

Thank you for allowing me the floor.

On behalf of the Square Kilometre Array (SKA) Observatory (SKAO), I am pleased to address the 61st Session of the Legal Subcommittee of COPUOS on this important topic.

Chair,

During the last fourteen months, the SKAO was born as an international intergovernmental organisation, and in June of last year, our Council agreed to commence construction of our observatory, which will by the end of this decade, be realised as the largest and most capable radio telescope infrastructure in the world, and one of the largest research infrastructures of any kind in the world. Our driving aim is to understand, through radio astronomy, answers to some of the most fundamental questions in physics and astronomy. Through our instruments, and the broadest possible engagement with scientists around the world, we aim to create an ecosystem whereby professionals and the public alike will ultimately have access to our science. We will work alongside our research infrastructure colleagues in other domains to enable a multi-wavelength view of the Universe that will contribute fundamentally to humankind's knowledge about our origins and our place in the cosmos. We look forward to contributing to the COPUOS agenda in these areas.

Chair,

Over the last years we have followed with interest the COPUOS work touching on radioastronomy. We believe that as a Permanent Observer we can meaningfully contribute to discussions on the impact of small-satellites systems on space activities, which of course includes the exploration of the Universe and our space environment through radio astronomy. In the area of the efficient use of radio spectrum, SKAO, with its broad international membership of States and scientific partners, and position as a Sector Member of the ITU, is well positioned to coordinate initiatives to ensure that appropriate strategies are in place to balance the needs of astronomy alongside the priorities of other radio spectrum users.

Chair,

The boom in satellite mega-constellations involving very large numbers of satellites, and swarms of small satellites, is posing additional challenges for professional astronomy due to their impact on observations at radio frequencies (as sources of radio frequency interference - RFI), and optical and infrared wavelengths (due to reflecting sunlight and thermal emissions). In the case of the SKA, the RFI emitted by these constellations and swarms risk the loss of some observations. However, we believe that mitigations are possible and thanks to constructive engagement with satellite operators so far, the SKAO has identified a path that limits the impact on the SKA telescopes while imposing limited constraints on satellite operators. Strong commitments from industry and COPUOS Member State governments will be needed in the months and years to come to realise these proposals and ensure the investments are safeguarded and the skies remain a sustainable resource for all stakeholders, including SKAO.

Chair,

In addition, the SKAO, in its role as co-host of a new International Astronomical Union Centre for the Protection of the Dark and Quiet Sky, stands ready to contribute to COPUOS activities around the use of the local space environment and its long term sustainability, deploying our technical expertise to support dialogue.

Chair,

It is in this regard that the SKAO intends to follow with interest responses to the questionnaire *on the application of international law to small-satellite activities* (as contained in Appendix II to the LSC60 Report A/AC.105/1243), in particular the sections dealing with regulatory licensing and registration of small satellites, and as already reported in the Background paper by the Secretariat *Registration of large constellations and megaconstellations* (A/AC.105/C.2/L. 322). The SKAO works in close partnership with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in Australia and the South African Radio Astronomy Observatory (SARAO) in South Africa to build and operate the Observatory and its telescopes. The two sites have been chosen due to their radio quietness, and enjoy the national regulatory status of radio quiet zones (RQZ) that

protect them from ground-based interference, making them ideal for radio astronomy observations, as the SKA precursor telescopes MeerKAT in South Africa, and ASKAP and MWA in Australia, have already demonstrated.

I thank you Chair.