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Square Kilometre Array status

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The Square Kilometre Array Observatory (SKAO) is building two of the world's largest and most capable radio telescopes and associated infrastructure and supercomputing capability. The telescopes, comprise an array of 15-m parabolic antennas in South Africa that will operate at frequencies spanning 350MHz–15.4GHz with a 150km maximum baseline, and another array of log-periodic antennas in Australia that will operate over 50–350MHz with a 74km maximum baseline.

The observatory was established as an intergovernmental organization in May 2021 and construction formally commenced in July 2021. SKA-Low antennas collected their first signals in 2024 and the equivalent milestone will be achieved with SKA-Mid antennas in the first half of 2025.

SKAO is building out each array progressively through a series of steps referred to as Array Assemblies. SKA-Low is currently at the first such milestone AA0.5, with work underway on AA1. SKA-Mid will reach the AA0.5 stage in the first half of 2025. The goal of the Observatory and of the countries that make up its membership, represented through the SKAO Council, is to deliver the Design Baseline (or AA4) for each of SKA-Low and SKA-Mid. For SKA-Mid, AA4 comprises 197 fully steerable dishes with a collecting area of 33,000 m^2. For SKA-Low, AA4 comprises 512 stations each of 256 dual-polarised antennas (131,072 in total), with an effective collecting area of 400,000 m^2. The current construction program aims to deliver each array to an intermediate stage called AA* (a modification of what had previously been called AA3). AA* has 307 stations in SKA-Low and 144 dishes in SKA-Mid.

We will describe the current state of play of SKA construction, the timeline for the continuing construction program, commissioning status and (very) early demonstrations of the performance of the evolving systems.