

# Australian SKA Regional Centre

The Australian-hosted SKA-low will produce around 300 PB per year of data that science teams around the globe will need to access readily. Another 300 PB will be produced by the SKA-mid in South Africa.

SKA member states are forming a collaborative network of SKA Regional Centres (SRCs) to design, build, deliver, and operate end-to-end support for science data products, archives, and associated services.

SRCs will:

- Provide data flow and data dissemination solutions from the SKA to users;
- Store, publish and curate SKA data;
- Post-process and analyse SKA data products;
- Provide SKA data user support.

Once established, the SRCs will form an operational alliance that will work closely with SKAO operations in the management of SKA data flow to users, the allocation of processing resources and the capabilities of the distributed SKA Science Archive. The Australian SKA Regional Centre (AusSRC) will enable science with the SKA data in Australia and internationally.

## AusSRC Design Study Program

The AusSRC Design Study Program is \$4m program, funded by the Australian Government and CSIRO. The program is lead by ICRAR and CSIRO in collaboration with the Pawsey Centre, the MWA, the Shanghai Astronomical Observatory (ERIDANUS Project), AAL, and the international SRC Steering Committee. The program will define an AusSRC design and costing based on requirements and experiences gathered from the Australian and regional communities and the SKA precursors. The program will initially run from 2019 to 2022 and produce a submission to the Federal Cabinet for Stage 1 operational funding. Stage 1 (2022-2027) will focus on the operational support for science with SKA precursors. Stage 1 will also engage in SKA-LOW commissioning and early science from SKA-LOW. A Stage 2 proposal and deployment of AusSRC would take place in the 2028-30 period.

A significant body of work is required to develop the SRC concept. The program will use a top-down analysis of SRC requirements in global collaboration with other SRCs and the SKAO, and a bottom-up approach solving practical computational and data problems within the SKA precursor projects, leading to the design and prototyping of the architecture of the future Australian SRC.

The program will identify, assess, and test potential solutions for providing tools, services, and people needed for the Australian and regional partner research communities to utilise SKA data outputs. When completed, it is expected to bring together a range of resources, potentially including Australia's HPC network (including the Pawsey Centre); other HPC capabilities; commercial cloud services; AARNet; and overseas facilities.

See more on <https://aussrc.org/>