

# Square Kilometre Array (SKA)

The Square Kilometre Array Radio Telescope will be the world's biggest telescope. It is called an array because it will be made up of many large antennas linked together via optic fibre cables. The total surface of all the antennas will add up to approximately one square kilometre and will be completed in 2024.

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## Why is SKA special to South Africa?

On the 25th May 2012 the SKA Organisation announced that SKA would be shared between South Africa and Australia. The lion's share of the SKA steerable dish-shaped antennas will come to South Africa. Most of them will be concentrated in the Northern Cape and the rest will be distributed across Africa.

South Africa's MeerKAT telescope is part of SKA and it will consist of 64 dish-shaped antennas. Seven dishes (KAT-7) has already been built as a prototype for the MeerKAT in the Northern Cape, 80 kilometres from Carnarvon.

## How will SKA work?

Just as a radio turns radio waves into music, a radio telescope turns radio waves from space into pictures.

The radio signals are processed by computers that can interpret the signals, to form images that give us snapshots of the Universe.

## What will SKA be used for?

Radio astronomers will use the SKA to understand how stars and galaxies are formed and how they evolved over time.

The SKA will also be used to answer questions about the Universe, such as:

- What is "dark matter" that occupies 95% of the Universe?
- How magnetic fields form and evolve in the Universe?
- Are you alone in the Universe?

