How does SKA1 compare with the world’s biggest radio telescopes?

**SKA1 LOW**

Australia

- **419,000m²**
- ~130,000 antennas

**SKA1 MID**

South Africa

- **33,000m²**
- ~200 dishes

**Array Frequencies**

- A telescope’s capacity to receive faint signals - called sensitivity - depends on its collecting area, the bigger the better. But just like you can’t compare radio telescopes and optical telescopes, comparison only works between telescopes working in similar frequencies, hence the different categories above.

**At 110 MHz**

**LOW FREQUENCIES**

- **LOFAR**
  - **2500m²**
  - 2048 antennas

- **GMRT**
  - **48,000m²**
  - 30 dishes

- **MWA**
  - **52,000m²**
  - 34,000 antennas

**MID FREQUENCIES**

- **ASKAP**
  - **4,000m²**
  - 36 dishes

- **MeerKAT**
  - **9,000m²**
  - 64 dishes

- **JVLA**
  - **13,200m²**
  - 27 dishes

- **FAST**
  - **7,000m²**
  - 300m x 35m antenna

**SINGLE DISHES**

- **GBT**
  - **3,200m²**
  - 64 dishes

- **GBT**
  - **7,800m²**
  - 100m dish

- **Lovell**
  - **4,500m²**
  - 76m dish

- **Effelsberg**
  - **7,800m²**
  - 100m dish

- **ALMA**
  - **6,500m²**
  - 66 dishes

**HIGH FREQUENCIES**

The collecting area is just one aspect of a telescope’s capability though. Arrays like the SKA have an advantage over single dish telescopes: by being spread over long distances, they simulate a virtual dish the size of that distance and so can see smaller details in the sky, this is called resolution.