The project to build the largest radiotelescope the world has ever seen, the Square Kilometer Array (SKA), took a key step last month when the two candidate sites, southern Africa and Australia/New Zealand, made their final submissions to the project's site selection committee. The two teams now have a nail-biting wait until next February or March when the SKA board will announce its decision.

SKA's name refers to the collecting area of its radio dishes. It will be an astronomy project on an epic scale: made up of thousands of dishes and antennas spread over thousands of kilometers. The southern African bid has its nucleus (where most of the dishes will be sited) in the Karoo Desert of South Africa, with others scattered across eight countries, including islands in the Indian Ocean. The rival antipodean bid is centered in the desert of Western Australia with dishes as far away as New Zealand and possibly a Pacific island. Both bid teams had to provide evidence of the ability to provide infrastructure (such as power and broadband) at the sites; protection for the areas’ "radio quietness"; as well as other factors such as suitable geology and government support. "We submitted a comprehensive and detailed response with input from 47 government departments and other organizations," says Brian Boyle, director of the Australia/New Zealand bid. Both teams are also building small precursor arrays to demonstrate some of the technologies that will be used in SKA.

The submissions now go through a multistage evaluation involving independent consultants and various committees. The bid teams will have to attend an event in London in December to answer questions about their sites. "We strongly support [SKA's] merit-based approach," says Boyle.

Meanwhile, researchers across the globe are working on developing technology for the array. "We're now doing the engineering science development," says SKA director Richard Schilizzi. From next year, the project will be in its preconstruction phase until 2015. "This is designed to produce production-ready plans," says Boyle. Construction can then begin in 2016, funding permitting.

SKA will also take the important step this year of setting up a legal entity to supervise the project. "SKA will be a company limited by guarantee in the United Kingdom," Schilizzi says. "This central office will be well resourced and have the design authority to carry out final integration of the project." Owners of the company will be the nine countries so far signed up to fund the project: Australia, China, France, Germany, Italy, the Netherlands, New Zealand, South Africa, and the United Kingdom.

Follow ScienceInsider on Facebook and Twitter
Giant Radiotelescope Competition Nears Decision Point - ScienceInsider

http://news.sciencemag.org/scienceinsider/2011/10/giant-radiotelescop...