SKA ORGANIZATION/TDP/DRAO/SWINBURNE ASTRONOMY PRODUCTIONS

Aperture arrays for low (top) and middle (bottom) frequencies, to be located in Australia and South Africa, respectively, will be part of the Square Kilometre Array.

employ best practices." Specifically, he says, the project won't ask governments to "put billions on the table" until the technologies are mature. "We have also been careful to work closely with the people with the checkbooks, so they are comfortable with how the project and the decision making are progressing, and to make sure we avoid some of the problems that have affected other big projects."

It helps that in both South Africa and Australia, the SKA is a visible symbol for politics and the public. The project "is seen as an important facet for maintaining Australia's position in world astronomy," says Brian Boyle, SKA director for Australia. "For South Africa and our African partner countries, this represents a new era," says Justin Jonas, SKA South Africa's associate director of science and engineering.

The dual-site decision, Boyle and Jonas say, has one winner: Global science.

Toni Feder

NASA receives spy telescopes

Surplus instruments could mean big savings for future astrophysics missions, but not anytime soon.

The two space telescopes that the secretive National Reconnaissance Office (NRO) has given to NASA are likely to remain grounded for the foreseeable future. A satellite incorporating one of the surplus spy telescopes will cost NASA between $1 billion and $2 billion to build and launch, according to Michael Moore, acting deputy director of NASA's astrophysics division. That's money the agency doesn't expect to be able to find for years to come.

Each of the telescopes "would have cost us around $250 million," Moore told reporters on 5 June. The optical components are "essentially perfect," he said, with performance comparable to that of the *Hubble Space Telescope* but with a field of view up to 100 times greater. "We arguably could have produced these, but we didn't have the scientific drive in that particular direction," he noted.

The wide-angle feature makes the NRO telescopes well suited to become the major component of the *Wide Field Infrared Survey Telescope*. That telescope was ranked as the top-priority large space mission by the National Academies' 2010 decadal survey of the astrophysics community; its main functions are measuring dark energy and searching for exoplanets. The telescopes' "extraordinary field of view would allow you to see more supernovae, the classic way to look for dark energy," Moore said.

A long way off

If cost were no object, 2020 would be the soonest that a spacecraft built around one of the telescopes could be launched, said Moore. A more likely launch date is 2025, after funding for development of the *James Webb Space Telescope* project has been freed up and becomes available for other projects, he said.

John Mather, NASA senior project scientist for *JWST,* expressed delight with the acquisition of the twin telescopes. Having the hardware in hand "saves a lot of thinking cost," he says, and will make engineering the spacecraft a whole lot simpler. "The next challenge is to get the instrumentation built," he says. The telescopes have been stripped of cameras and other instrumentation that would have been used for reconnaissance missions.

Moore said the NRO first contacted NASA in January 2011 to offer the telescopes. Neither agency would provide a photo of the telescopes, which have been declassified and in NASA's possession since August 2011. Asked about how they happened to become available, a spokeswoman for the NRO would say only that they were "hardware that didn't meet NRO's intelligence needs."

Located at an ITT Exelis facility in Rochester, New York, each telescope features a 2.4-m-diameter main mirror, mirror support elements, and a truss structure that holds a secondary mirror. Also included are systems to maintain

temperature, an outer baffle, and doors that protect the optics from light.

The actual cost of a satellite will depend on the number of instruments to be included, the accuracy of its control systems, and other factors, Moore said.

NASA will be paying $75 000 to $100 000 annually to store the two telescopes.

David Kramer

New international scientific organization is launched

Goal is to harmonize peer review criteria and other research policy issues among developed and developing nations.

Representatives from 44 nations gathered at NSF headquarters in Arlington, Virginia, in May to endorse a set of principles to guide each country's scientific peer-review systems. The two-day meeting marked the debut of the Global Research Council (GRC), an organization that will convene annually to address topics of concern to the international scientific community.

"By forming the research council, we have taken the first step towards a more unified approach to the scientific process on a global scale," NSF director Subra Suresh told reporters. The council, he said, "is intended to be a voluntary, virtual organization that discusses shared goals and aspirations and principles but also provides a vehicle to further science in a unified way across the globe."

The council traces its origin to a 2010 meeting called by the now defunct European Heads of Research Councils, which the US, other developed nations, and nations with emerging research capabilities also attended. David Stonner, deputy director of NSF's Office of International Science and Engineering, says that the idea floated then was to encourage international collaboration in research by harmonizing each nation's research policies. He notes that funding agencies often can impede international collaborations because of their varying requirements for grant recipients.

"In the 21st century, it's essential that any developing country look to the incorporation of knowledge into their economies," said Glaucius Oliva, president of Brazil's National Council for Scientific and Technological Development. "We've been doing that in many countries, but it's essential to have a shared forum where experiences can be exchanged and collaboration can be improved."

Confidentiality threatened

Attendees agreed on the principles of expert assessment, transparency, impartiality, appropriateness, confidentiality, and ethical integrity for their peer review systems. The principles are to ensure that "there is no disconnect between what is commonly accepted in institutions with an established history and in those institutions that are just evolving," Suresh said. NSF's requirement that all grantees show how their research will produce societal benefits beyond the narrow confines of the work is not among the principles.

In welcoming the principles, Oliva expressed concern that new federal law in Brazil and court rulings there threaten the confidentiality of peer review. "People are going to court to have access to the confidential [review] reports, and an