



SKA status – November 2017

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CSIRO ASTRONOMY AND SPACE SCIENCE
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IGO: progress of negotiations

- Inter-Governmental Organisation - Convention between governments
 - 11 parties at negotiations
 - Nearly all major issues ~resolved – only IP remains
 - Drafting Final Record
 - Parties hope to Initial text before end of year
 - Signing ceremony early 2018 → ratification 12-18 months later
 - SKA Observatory enters into force when 5 countries ratify
- Australian funds allocated – will go to Cabinet for approval to sign



Cost control project

SKA1 Low Deployment Baseline

	Design baseline	Deployment baseline
No. stations	512	476
Max. baseline	65 km	40 km
Pulsar search	167 nodes	125 nodes

SKA1 Mid Deployment Baseline

	Design baseline	Deployment baseline
No. dishes	133	130
Max. baseline	150 km	120 km
Band 1 feeds	133	130
Band 2 feeds	133	130
Band 5 feeds	133	67
Pulsar search	500 nodes	375 nodes

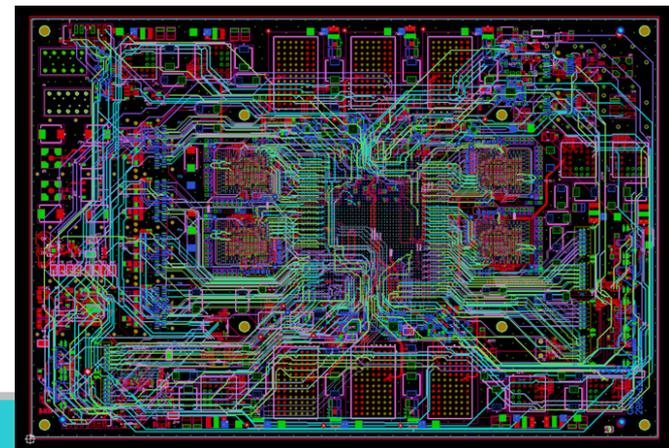


CSIRO pre-construction grant outcomes

Consortium	Lead bidder	Grant amount \$k	Comments
Central Signal Processing	CSIRO	1,896	Further funding expected for 18/19
Dish	CSIRO	0	Leadership role being transferred
Infrastructure Australia	CSIRO – Aurecon partners	590	Further funding expected
Science Data Processor	ICRAR - UWA	398	Further funding expected for 18/19
Assembly, Integration and Verification	CSIRO	455	
Signal and Data Transport	AARNet	166	
PAF	CSIRO	0	Continue leading consortium
Total		\$3,505k	

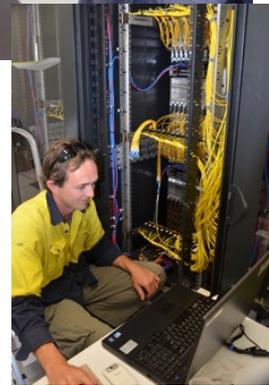
Key pre-construction activities

- Critical Design Reviews start at the end of this year
 - System CDR end of 2018
- Antenna selection for SKA Low
 - SKALA4 and MWA antenna
 - Proposals for test arrays
- Bridging from CDR to construction
 - Construction proposal to SKA Council in 2019
 - Construction due to start in 2020



Site Establishment

- New Dept in WA - Jobs, Tourism, Science and Innovation
 - Negotiations around WA/Commonwealth Collaboration Agreement
- ILUA negotiations underway
 - Aiming to complete negotiations by end of year
- SKA operator role and Site Entity

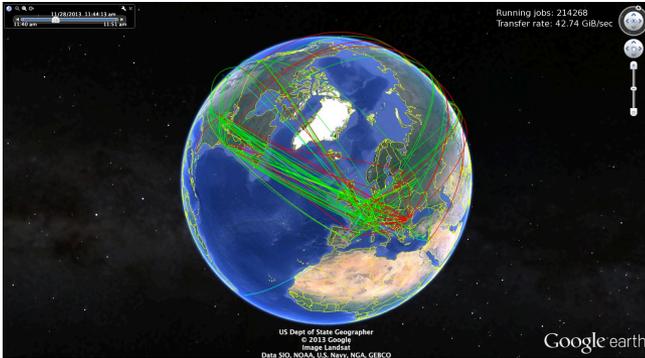


Australian SKA Science Advisory Committee

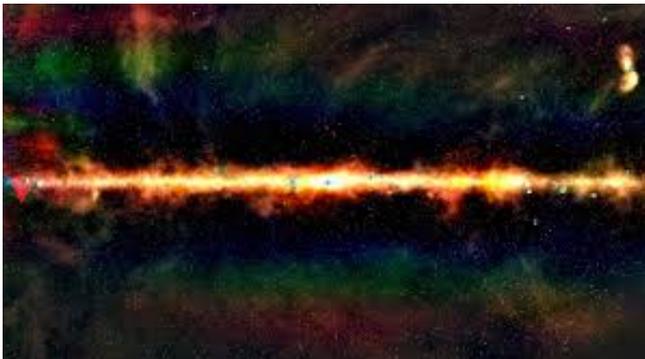
- Provides advice to Australian voting Board member (Jane Urquhart)
- Phil Edwards (CSIRO SKA Project Scientist) now appointed as Chair
- Members:
 - Dr Lisa Harvey-Smith (CSIRO)
 - Professor Andrew Hopkins (AAO)
 - Professor Lister Staveley-Smith (ICRAR, UWA)
 - Professor Naomi McClure-Griffiths (ANU)
 - Professor Elaine Sadler (Sydney)
 - Dr Cath Trott (ICRAR, Curtin)
- New community member – Willem van Straten
- SKA Fellowships programme
- OzSKA conference



Australian SKA Regional Centre



- SKA Observatory will deliver data to archives in Perth and/or Cape Town.
- Members will establish SKA Regional Centres to help support SKA science.
 - Loosely based on the CERN model of the Worldwide LHC Computing Grid
 - Provide processing, storage, user support and others
- Critical part of Australia's role in SKA



Developing roadmaps to SRC

Australia



Funded: 15.07.16



Exascale Research Infrastructure for Data in
Asian-Pacific astroNomy Using the SKA

Launched 10.04.17
<http://eridanus.net.au>

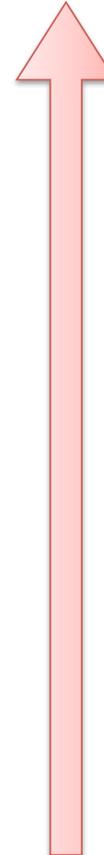
ERIDANUS



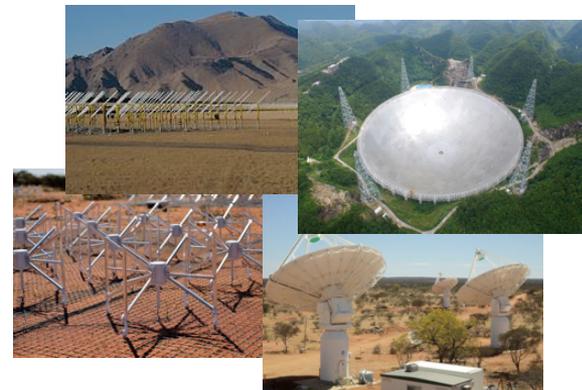
SKA-1 Scale

The ERIDANUS Project:

- A three year, **bottom-up**, design study aimed at deploying a prototype of data intensive research infrastructure and middleware between & within Australia and China, capable of addressing SKA-class data and processing challenges.
- Will respond to challenges identified by the SRCCG and Australian SRCWG, and will work in a coordinated and collaborative manner with the European Aeneas Project.



Technology Development Projects



Precursor Science Projects

ERIDANUS

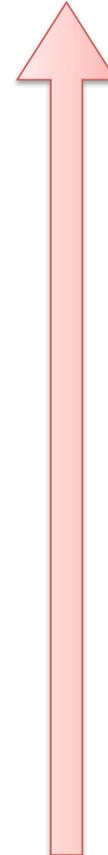
SKA-1 Scale

The ERIDANUS Project:

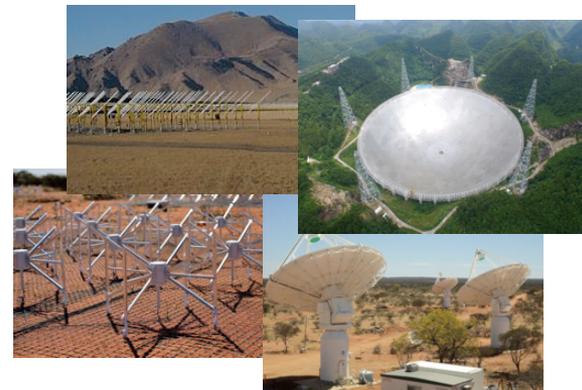
- Founded by ICRAR and SHAO in November 2016 - now includes CSIRO, and interest from CADC;
- Focus:
 - Data flow architectures
 - Execution frameworks
 - Strategies and systems to monitor and control cost
 - Networking optimisation
 - Cloud computing options

OPEN INVITATION FOR ALL TO JOIN!

Australian SRC Workshop
Perth, 27-29 November



**Technology
Development Projects**



**Precursor Science
Projects**



We acknowledge the Wajarri Yamatji people as the traditional owners of the observatory site.

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