



# 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

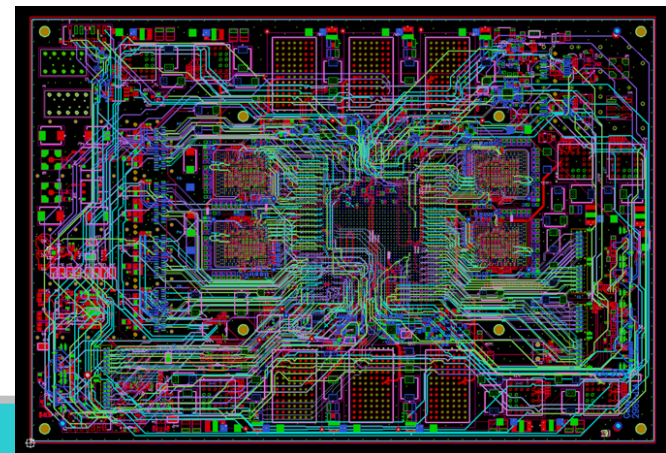
# CSIRO pre-construction grant outcomes

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
<b>Total</b>		<b>\$3,505k</b>	



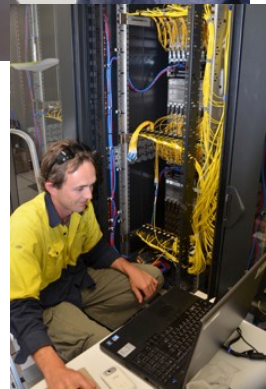
# Key pre-construction activities

- 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

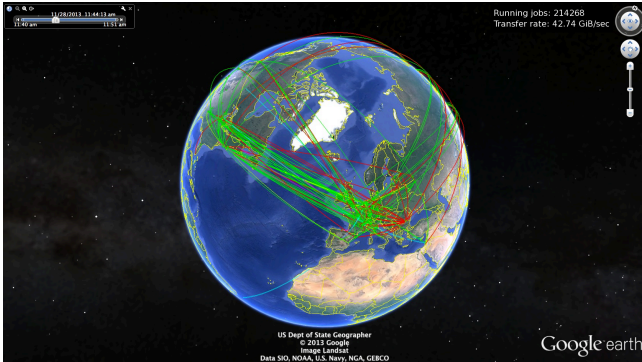
- New Dept in WA - Jobs, Tourism, Science and Innovation
  - Negotiations around WA/Commonwealth Collaboration Agreement
- ILUA negotiations underway
  - Aiming to complete negotiations by end of year
- SKA operator role and Site Entity



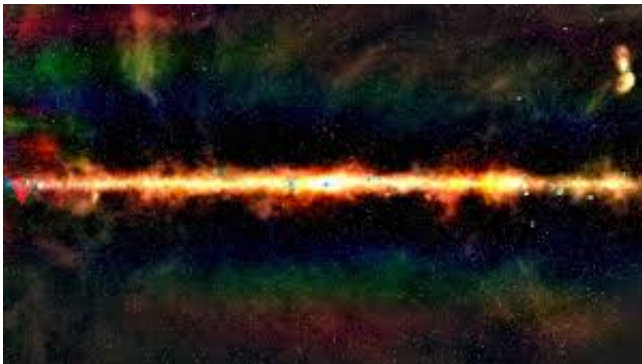
# Australian SKA Science Advisory Committee

- 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



**Funded: 15.07.16**



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

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

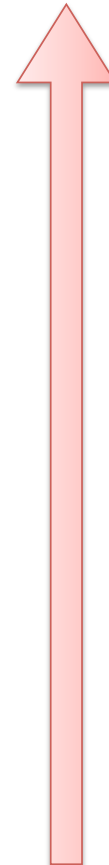
# ERIDANUS



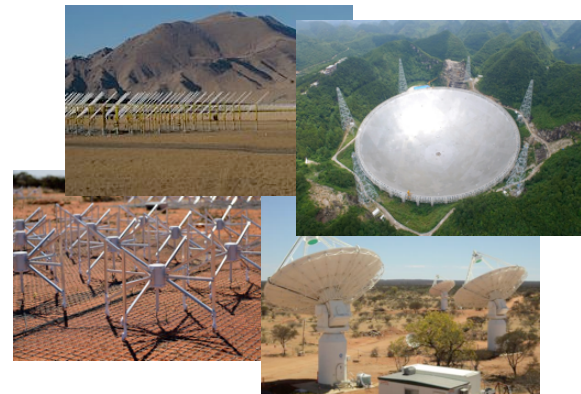
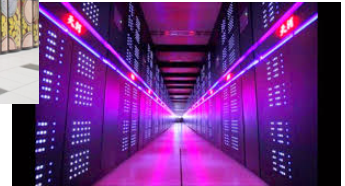
SKA-1 Scale

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:

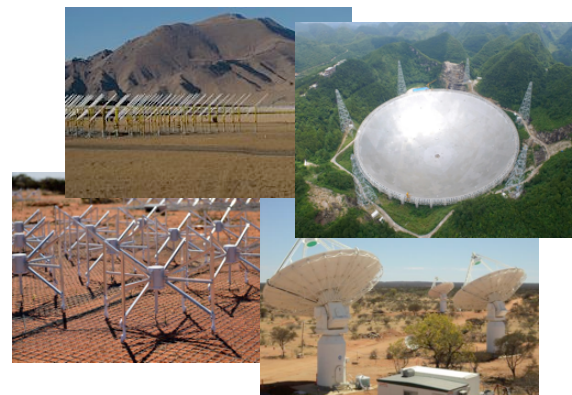
- Founded by ICRAR and SHAO in November 2016 - now includes CSIRO, and interest from CADC;
- Focus:
  - Data flow architectures
  - Execution frameworks
  - Strategies and systems to monitor and control cost
  - Networking optimisation
  - Cloud computing options

**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.

**Dr. Sarah Pearce**

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