

The Canadian SKA Regional Centre: Current Activities and Roadmap

Supporting Canadian researchers in the SKA era



Toby Brown, CADDC, HAA
Canada SKA Day, May 28 2026

SKA Observatory

Intergovernmental
organization

12 Member States

1 Acceding

3 Observers

Construction
underway

First science data in
2026

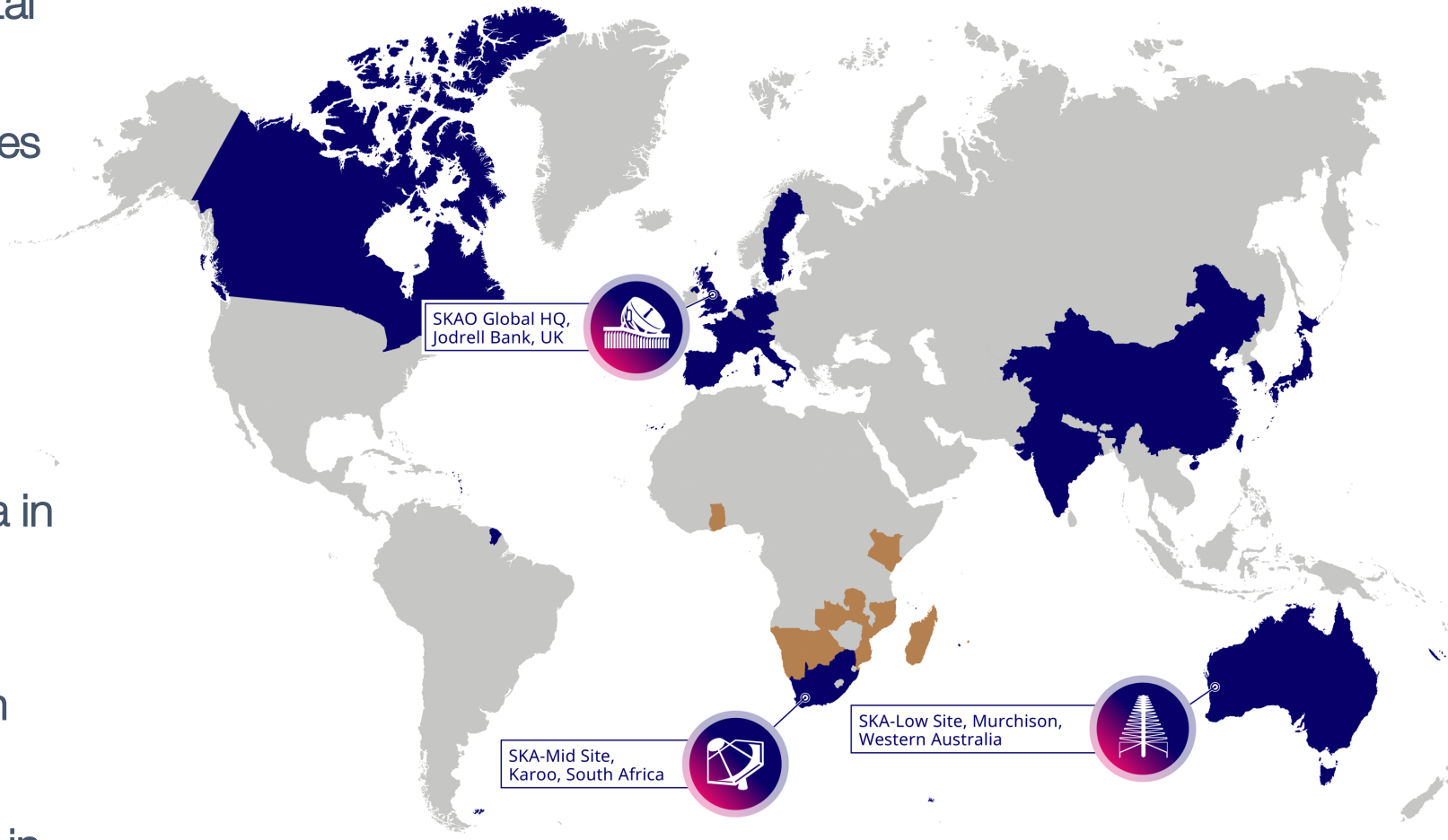
Shared-risk
observations in
2028

Fully operational in
2029/30

January 2023:
Canada intends to
join the SKA
Observatory as a
full member

Budget 2023
(March): up to
\$269.3 million for
the SKA (6%)

May 2023:
TB approves
budget to NRC



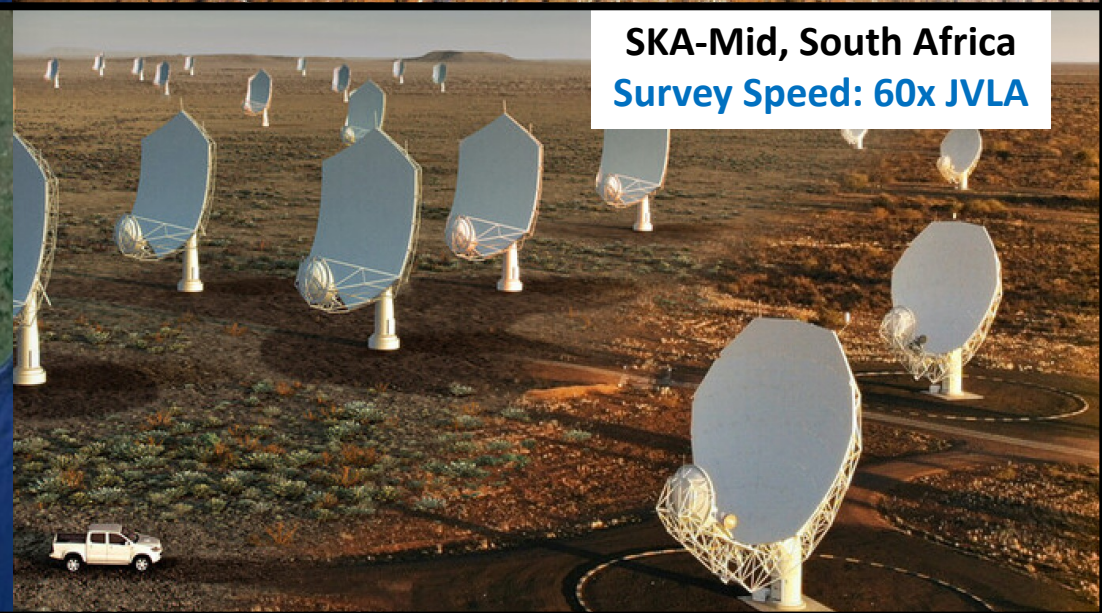
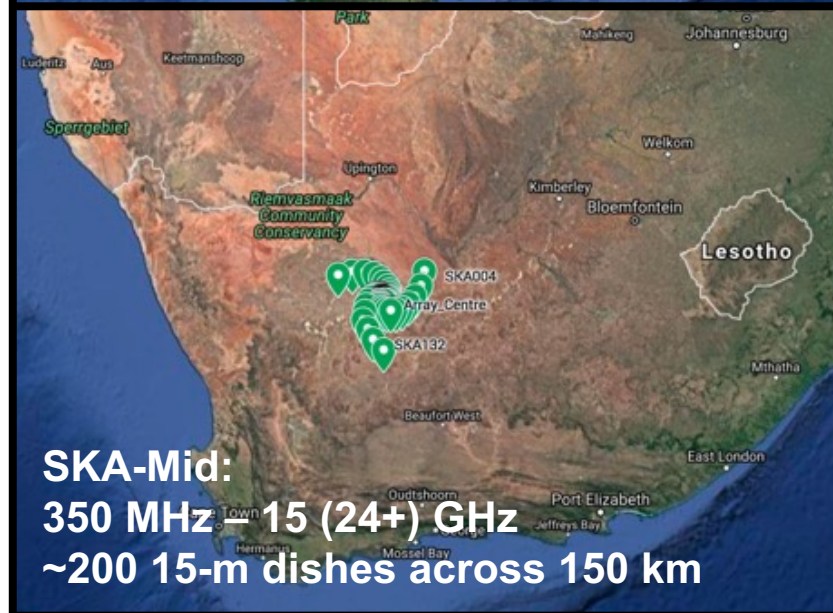
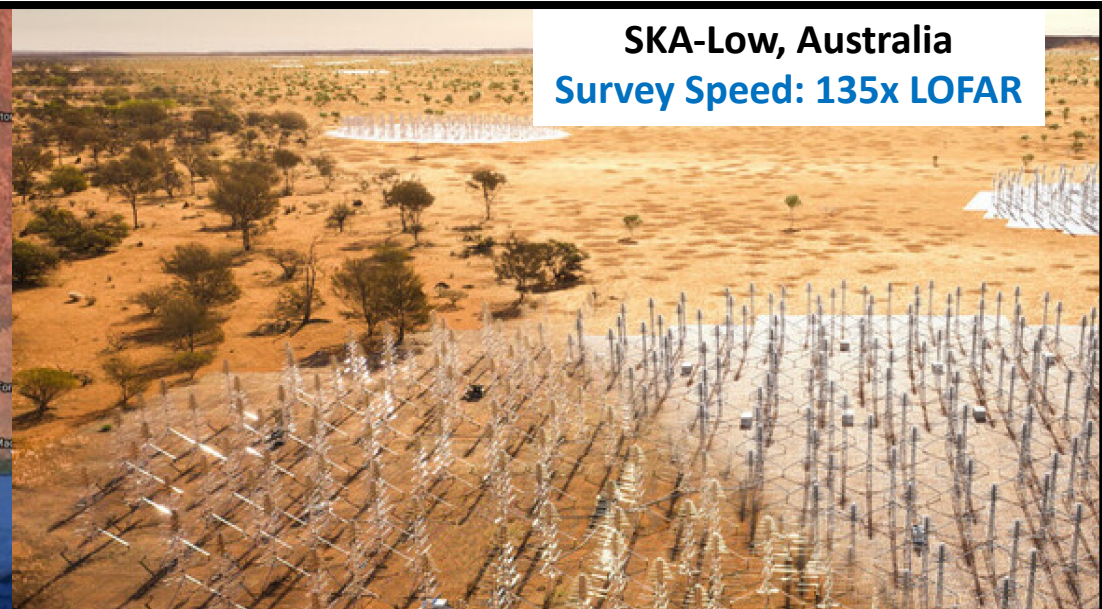
SKAO Partnership - includes SKAO Member States* and SKAO Observers (as of August 2025)

*	*	*		*	*	*		*	*	*	*	*	*	*	*

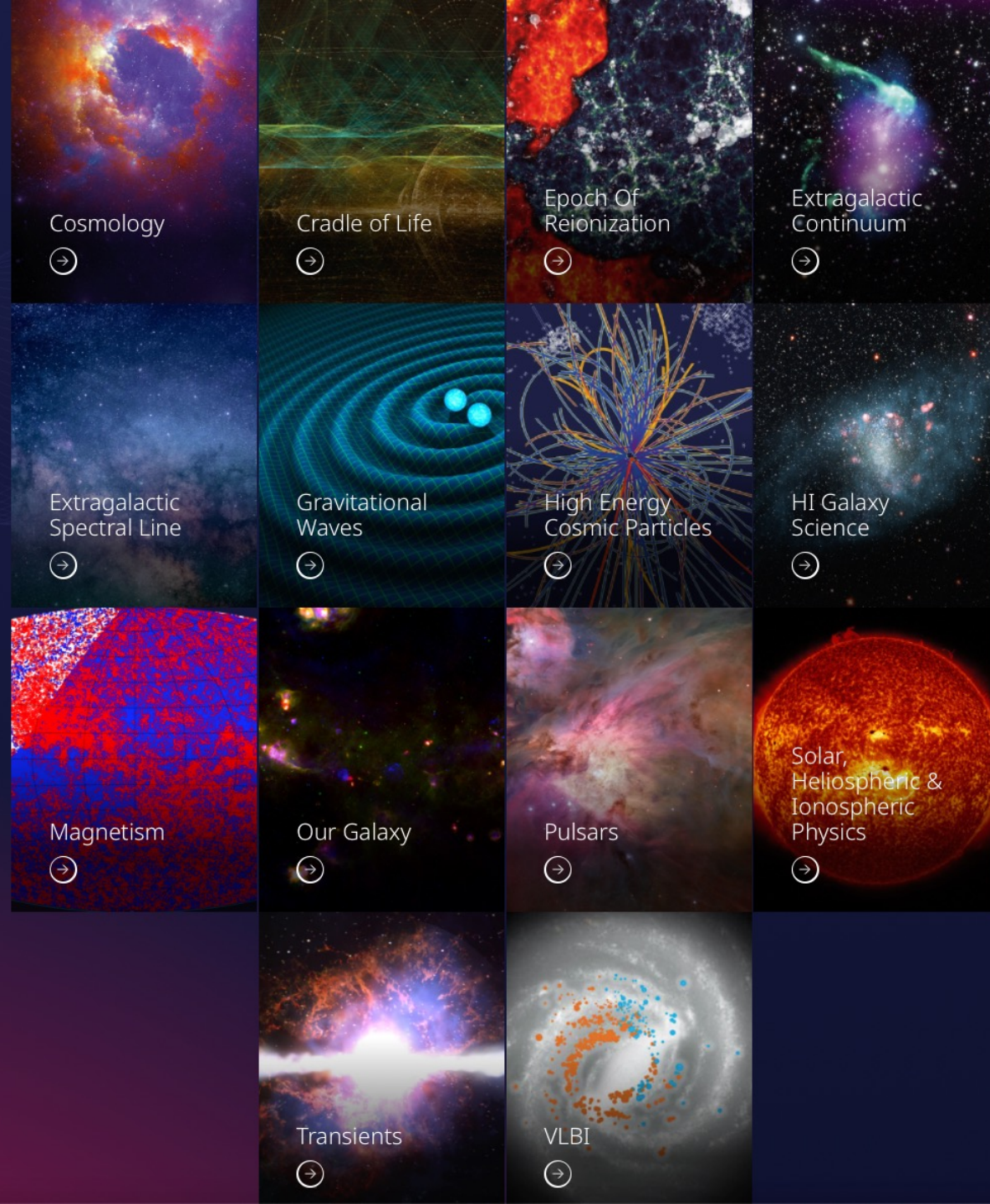
African Partner Countries



SKA Observatory



SKA Science Working Groups



SKA Regional Centre Network

What are the SKA Regional Centres???



Science Gateway, giving access to **Science enabling tools and applications**

running on federated compute and storage

enabling users to discover data in the **global SKA archive**, develop workflows, perform analyses and collaborate

addresses the "orders of magnitude" data problem



SKA Regional Centre Network

SRC Network global capabilities



SRCNet Project is focussed on the Federation of sites, data and services, including the INTERFACES (APIs)

Globally managed archive



User Accounts ("AAA"), Single Sign On

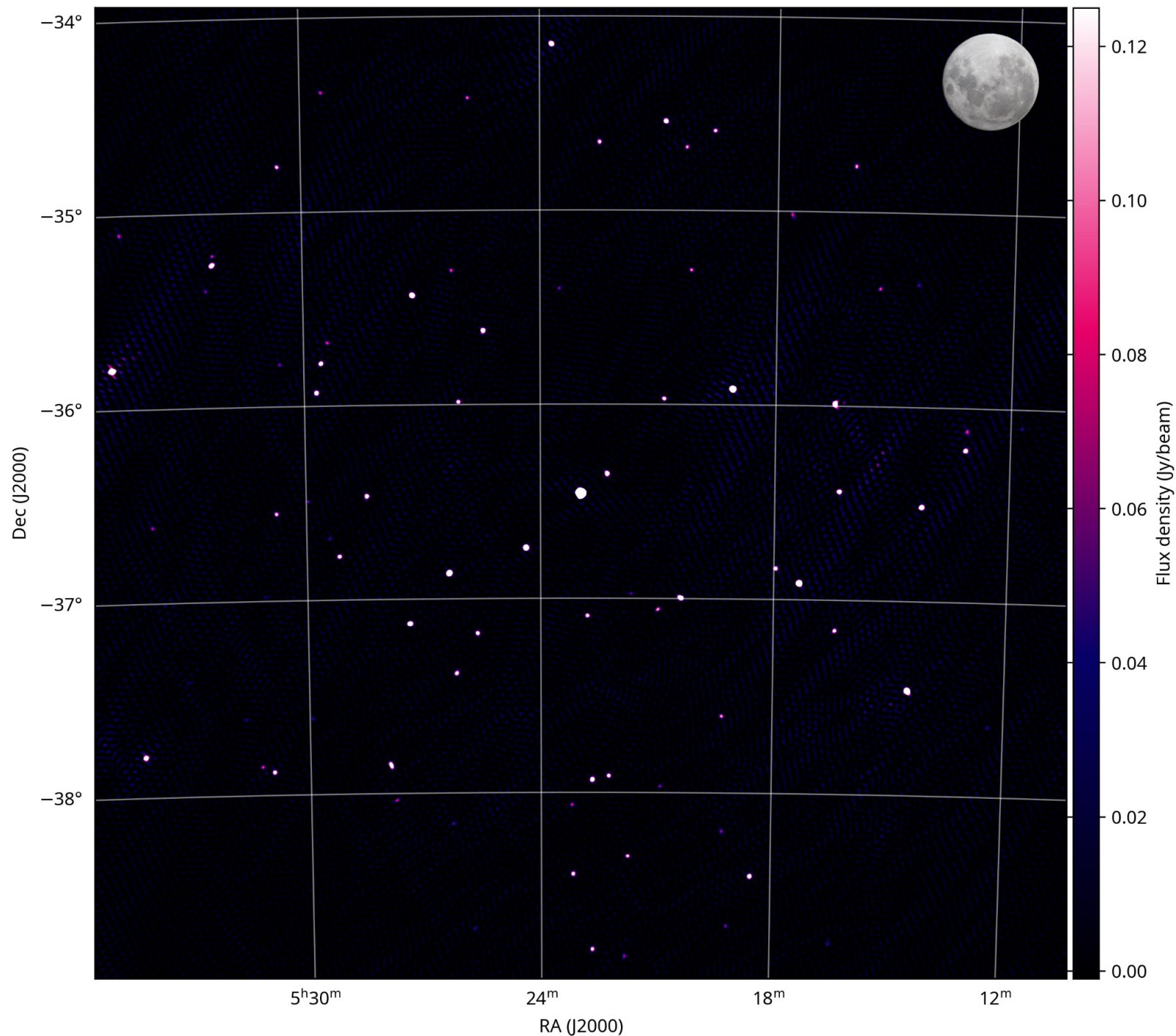


Single access portal ("Gateway")

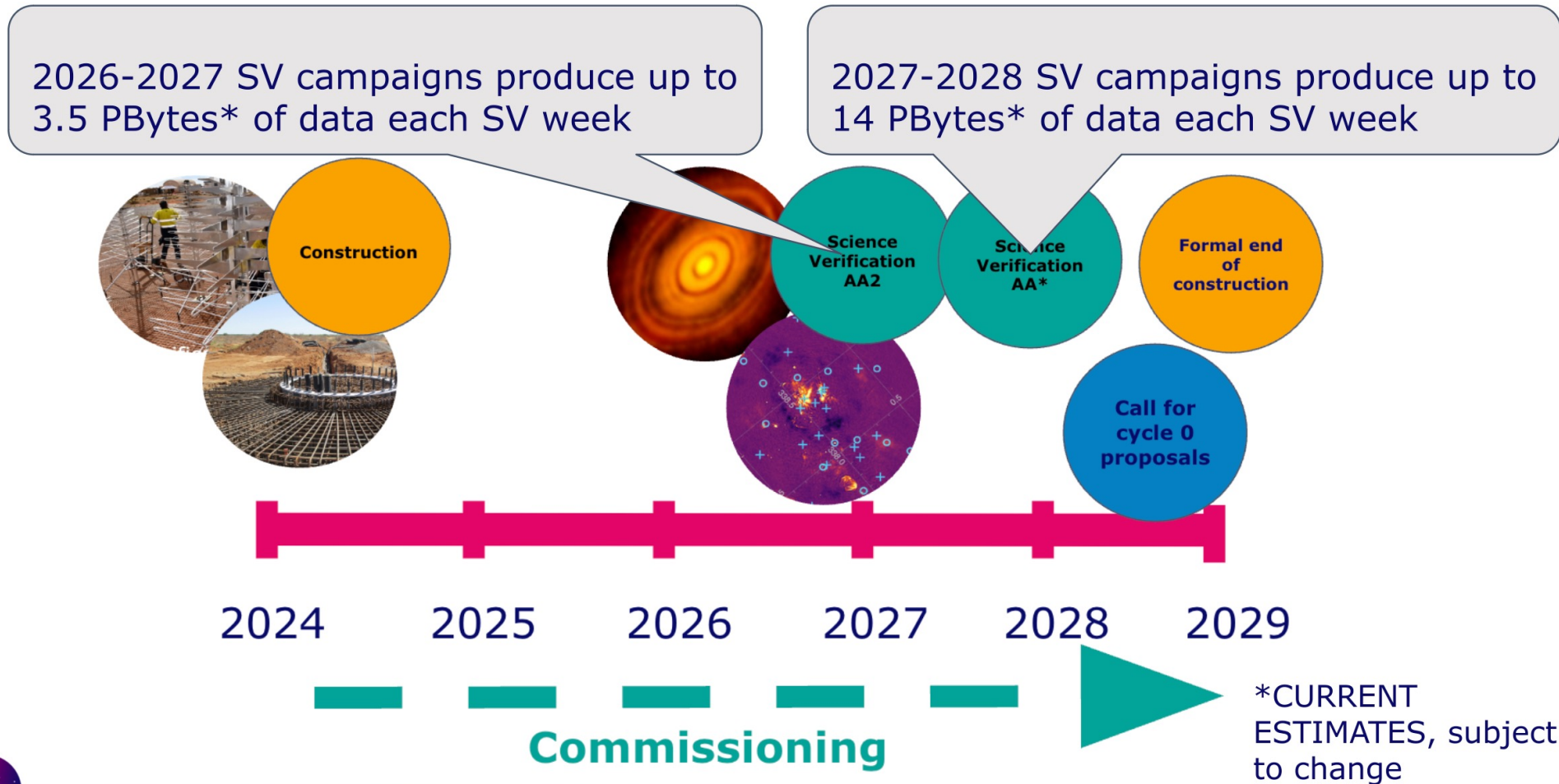


The first image from an early version of SKA-Low

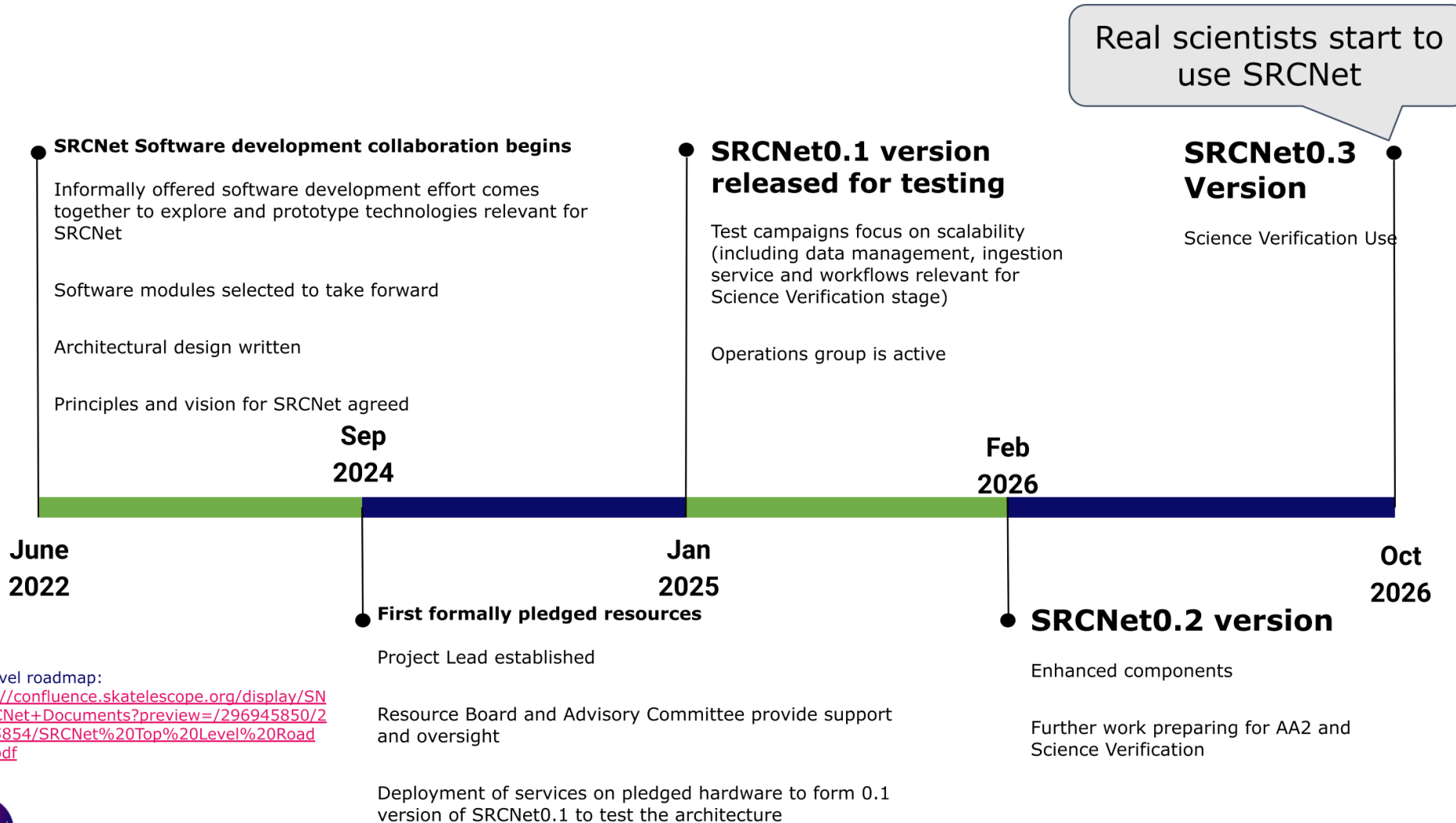
1,024 of the planned 131,072 antennas,



SKA Science Timeline



SRCNet 2026 Timeline



The Canadian SRC

CanSRC Model

- Pledge commensurate with share – 6%
- Leveraging previous investments in national digital research infrastructure
- Existing experienced partners (not starting from scratch)
- Experience with similar services (although not at scale)
- Part of the larger ecosystem of digital research infrastructure for astronomy in Canada

Funding for:

- CADC/CANFAR
- User Support
- Canadian SKA Scientists at Universities



**Digital Research
Alliance of Canada**



CanSRC's Mission

Deliver, Enable, and Support SKA-related Radio Astronomy Science in Canada

Compute
infrastructure

User Support

Community
Engagement &
Events

Tools &
Services

CanSRC

HAA Staff

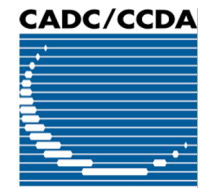
CanSKA
Scientists

Community
Builder



National Computing Activities

- Developing radio astronomy experience
 - Informing data models, workflows, science platform infrastructure, data transport
- Supporting Canadian radio projects
 - Polarization Sky Survey of the Universe's Magnetism (POSSUM)
 - Widefield ASKAP L-band Legacy All-sky Blind survey (WALLABY)
 - CHIME Fast Radio Burst (CHIME/FRB)
 - VLA Sky Survey (VLASS)
 - CanDIAPL
 - DRAO
- Collaboration Agreement with the Digital Research Alliance



SRCNet @ HAA/CADC

Management

JJ Kavelaars
Chris Willott

Development

Brian Major
Pat Dowler
Dustin Jenkins
Adrian Damian
Jeff Burke
Shiny Brar
Wenbin Li
Serhii Zautkin
Arati Kakadiya

Operations

John Ouellette
Sharon Goliath
Kevin Casteels

RCS @ UVic:

Shaun Bathgate
Ryan Taylor
Jeff Albert

Science

Toby Brown
Seb Fabbro

Two New Science Staff @ DRAO!



Robert Main

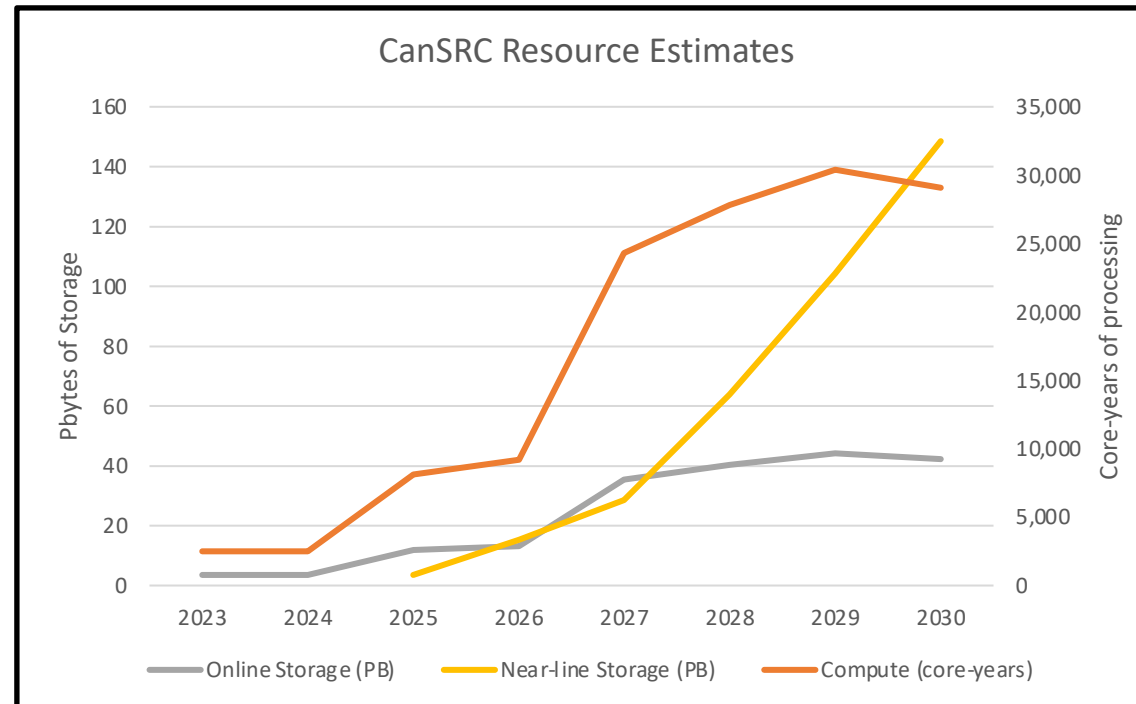


Eric Koch

More continuing staff scientist positions coming this fall!



CanSRC Resource Estimates



CASRC	2023	2024	2025	2026	2027	2028	2029	2030
FTE	3.00	6.75	6.75	6.75	6.75	6.75	6.75	6.75
Compute (core-years)	2,500	2,500	8,100	9,200	24,300	27,800	30,400	29,100
Online Storage (PB)	3.5	3.5	11.8	13.3	35.4	40.4	44.2	42.3
Near-line Storage (PB)			3.5	15.3	28.6	63.9	104.3	148.5



Canadian Advanced Network for Astronomical Research

[Check what CANFAR offers](#)

Storage Management



Group Management



Data Publication



Open Stack



CADC Search



Science Portal

IF YOU USE CANFAR, ADD AN ACKNOWLEDGEMENT TO YOUR PAPERS, THESES, AND OTHER RESEARCH OUTPUTS.

The authors acknowledge the use of the Canadian Advanced Network for Astronomy Research (CANFAR) Science Platform operated by the Canadian Astronomy Data Center (CADC) and the Digital Research Alliance of Canada (DRAC), with support from the National Research Council of Canada (NRC), the Canadian Space Agency (CSA), CANARIE, and the Canadian Foundation for Innovation (CFI).

CANFAR

www.canfar.net

CANFAR

Documentation Improvements

The screenshot shows the CANFAR Science Platform documentation page. The browser address bar displays 'opencadc.org/canfar/latest/'. The page header includes the CANFAR logo, version 'v1.0.4', a search bar, and a GitHub repository link for 'opencadc/canfar'. The main heading is 'CANFAR Science Platform'. Below this, a blue-bordered box contains the text: 'Canadian Advanced Network for Astronomical Research is a scalable, cloud-native workspace for astronomy research. Spin up JupyterLab, submit batch jobs, and collaborate in shared project spaces. The CANFAR Science Platform gives researchers the tools they need with minimal setup.' A green-bordered box follows, titled 'Discover what the CANFAR Science Platform can do for you, your team, and your research group.' It contains a grid of 12 items: Interactive Sessions (e.g. JupyterLab), Batch Processing (for large-scale analysis), Shared Storage (for collaborative datasets), Software Containers (with astronomy tools), Collaboration Tools (with group permissions), Help & Support (for research workflows), Python API (for access and automation), CLI (for terminal users), Publications (of DataCite DOIs), Release Notes (for the latest updates), Try out CANFAR Science Platform, and and much more... The bottom right corner of the page features three colored circles: teal, dark teal, and red.

opencadc.org/canfar/latest/

CANFAR v1.0.4 Search opencadc/canfar v1.0.4 3 6

CANFAR Science Platform

Canadian Advanced Network for Astronomical Research is a scalable, cloud-native workspace for astronomy research.

*Spin up JupyterLab, submit batch jobs, and collaborate in shared project spaces.
The CANFAR Science Platform gives researchers the tools they need with minimal setup.*

Discover what the CANFAR Science Platform can do for you, your team, and your research group.

- Interactive Sessions** e.g. JupyterLab
- Batch Processing** for large-scale analysis
- Shared Storage** for collaborative datasets
- Software Containers** with astronomy tools
- Collaboration Tools** with group permissions
- Help & Support** for research workflows
- Python API** for access and automation
- CLI** for terminal users
- Publications** of DataCite DOIs
- Release Notes** for the latest updates
- Try out** CANFAR Science Platform
- and much more...**

CANFAR Science Portal

Science Portal

Active Sessions



carta1

Running

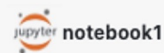
skaha/carta:5.0.3

started: 2025-10-08 16:28 UTC

expires: 2025-10-12 16:28 UTC

memory: 0.01 GB

CPU cores: 0.001



notebook1

Running

skaha/astroml:latest

started: 2025-10-08 16:23 UTC

expires: 2025-10-12 16:23 UTC

memory: 0.19 GB

CPU cores: 0.002



New Session

[Help](#)

Standard

Advanced

type ?

notebook

project ?

skaha

container image ?

astroml:latest

session name ?

notebook2

resources

☒ Flexible ?

☐ Fixed ?

Launch

Reset

Platform Load



Available CPUs: 2705.0 / 2706.0

used free

CPU usage

0 500 1,000 1,500 2,000 2,706

Available RAM: 10036.60GB / 10040.60GB

used free

Memory usage

0 2,000 4,000 6,000 8,000 10,040.6

Running Instances: 3

session desktopApp headless

instances

0 2 4 6 8 10

Canadian SKA Scientists will shape SKA science in Canada

The program designed to develop future leaders in radio astronomy, as well as the tools, expertise and community support that will benefit Canada

- For early-career postdoctoral researchers (PhD+5) to lead independent astrophysics research while maximizing Canada's investment in the SKA
- Can be taken Canadian University
- Competitive 5-year funding
- Call out this fall – see AAS Job Register ~September



Canadian SKA Scientists



Alice Curtin, McGill University

Fast Radio Bursts, Pulsars, and Gamma-ray Bursts



Fengqiu Adam Dong, York University

Pulsars, Long Period Transients, and Fast Radio Bursts

**Two more CanSKA
Scientists starting in
the fall!**

Call for Applications for will be out in September



How to get involved today

1. Use CANFAR for your radio astronomy projects
2. Engage with SKA on Science Verification
3. Talk to CanSRC staff about the science projects you want to do at Science Verification and beyond



Thank You!

Deliver, Enable, and Support SKA-related Radio Astronomy Science in Canada

Compute
infrastructure

User Support

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Tools &
Services

CanSRC

HAA Staff

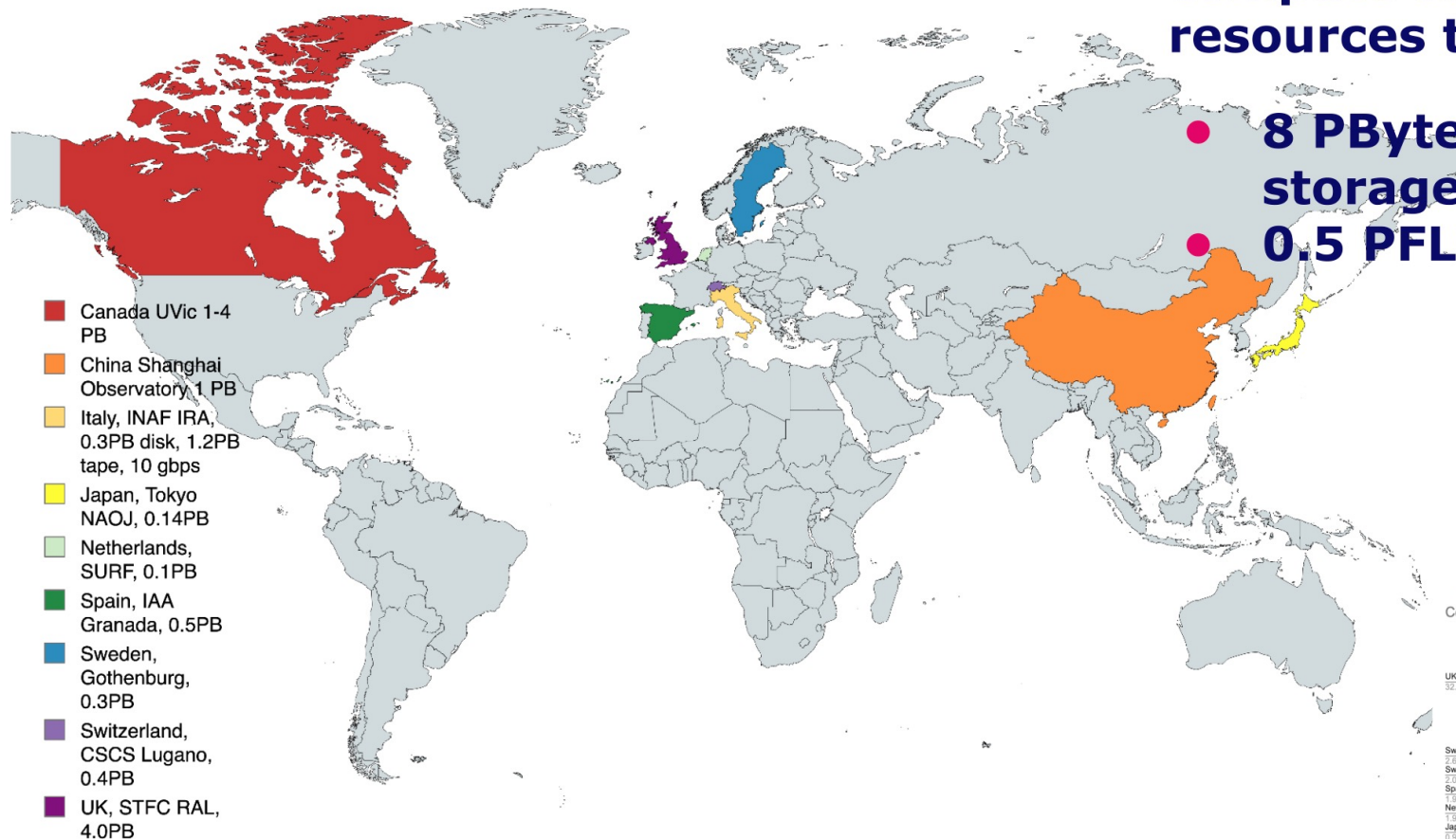
CanSKA
Scientists

Community
Builder



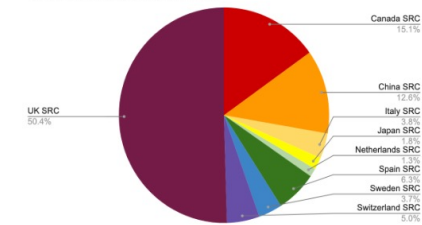
SRCNet0.1 planned sites

9 sites will contribute
compute and storage
resources to SRCNet0.1



8 PBytes total
storage
0.5 PFLOPS Compute

Storage fraction for SRCNet0.1



Compute fraction for SRCNet0.1

