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SKAO Regional Centre Canada

NRC·CNRC Canada

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SKAO Regional Centre Network

The Canadian SKA Regional Centre: Current Activities and Roadmap

Supporting Canadian researchers in the SKA era

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

CANFAR

CADC/CCDA
NRC·CNRC Canada

SKA Observatory

Intergovernmental organization

12 Member States

1 Acceding

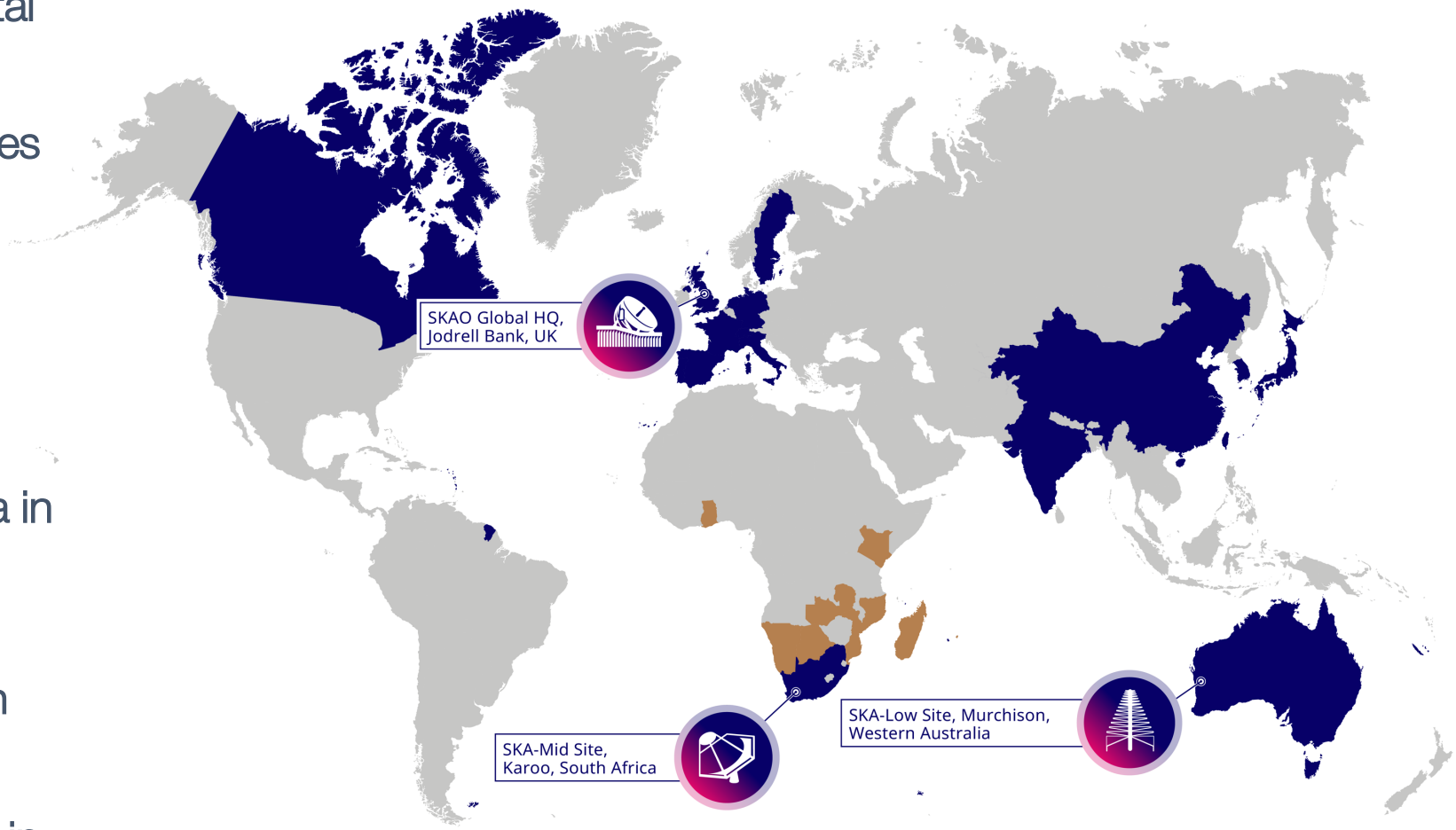
3 Observers

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

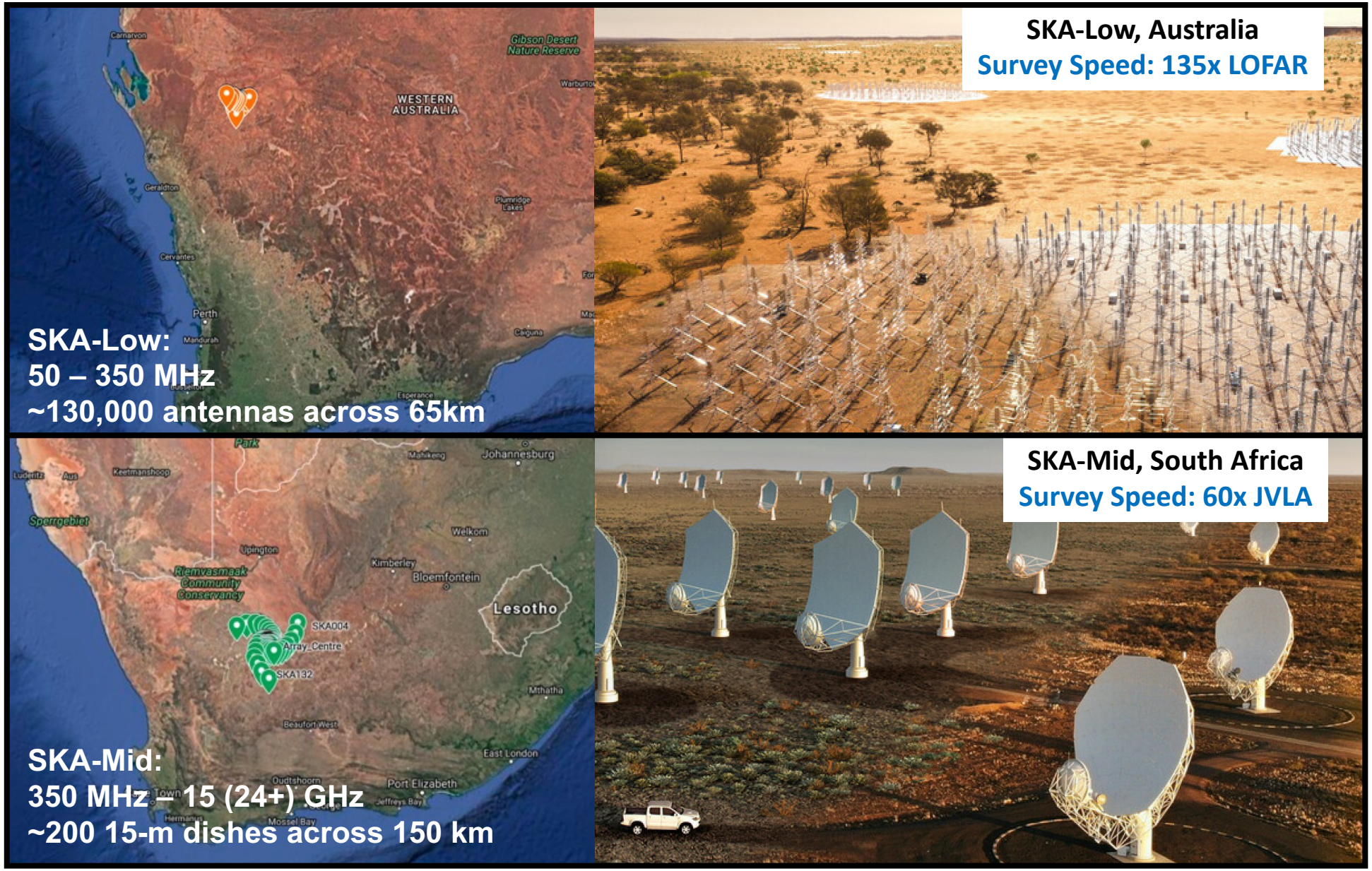
Budget 2023 (March): up to $269.3 million for the SKA (6%)

May 2023: TB approves budget to NRC

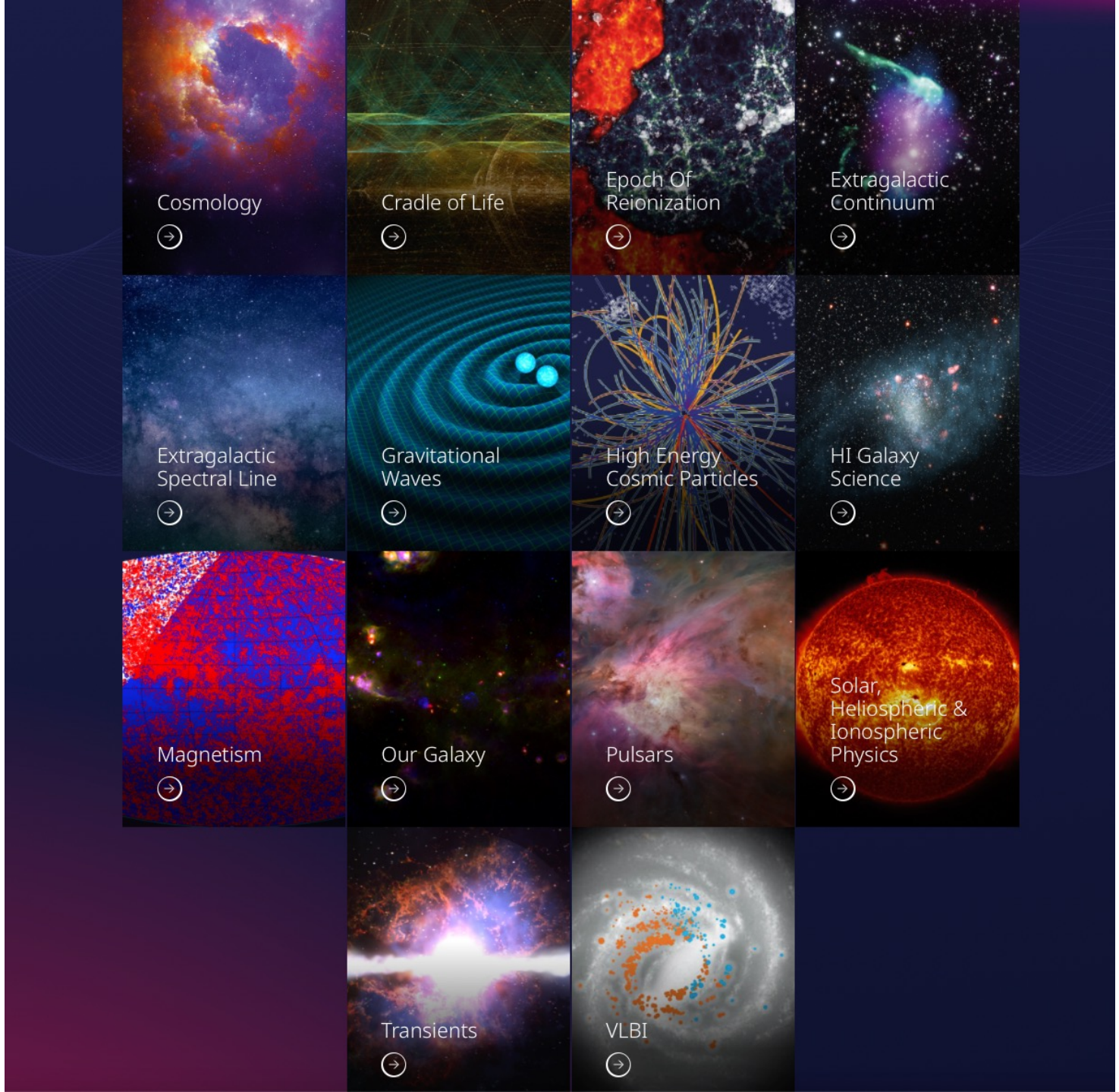
SKAO Partnership - includes SKAO Member States* and SKAO Observers (as of August 2025)

African Partner Countries

SKA Observatory



SKA Science Working Groups



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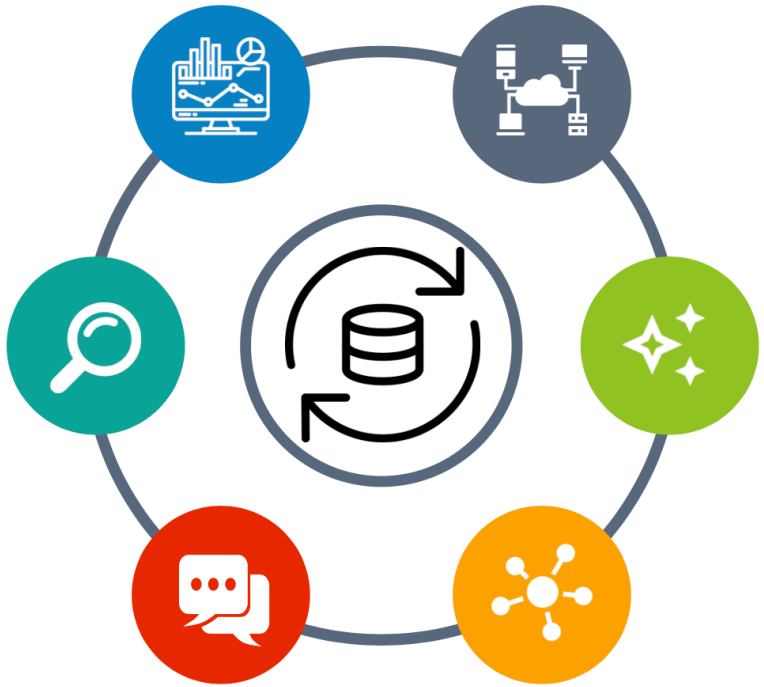
What are the SKA Regional Centres???



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

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SRC Network global capabilities

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

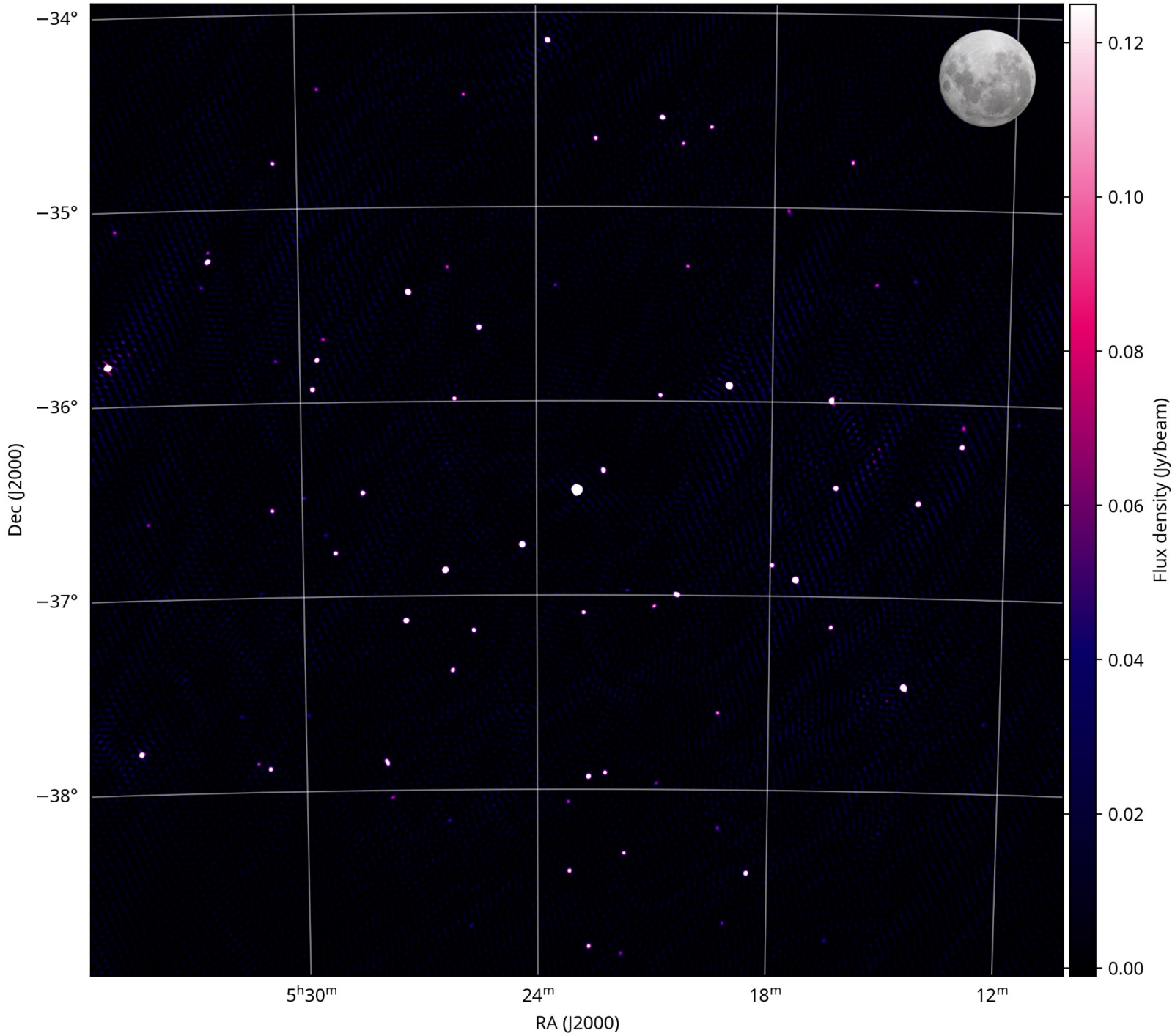
Globally managed archive

User Accounts ("AAA"), Single Sign On

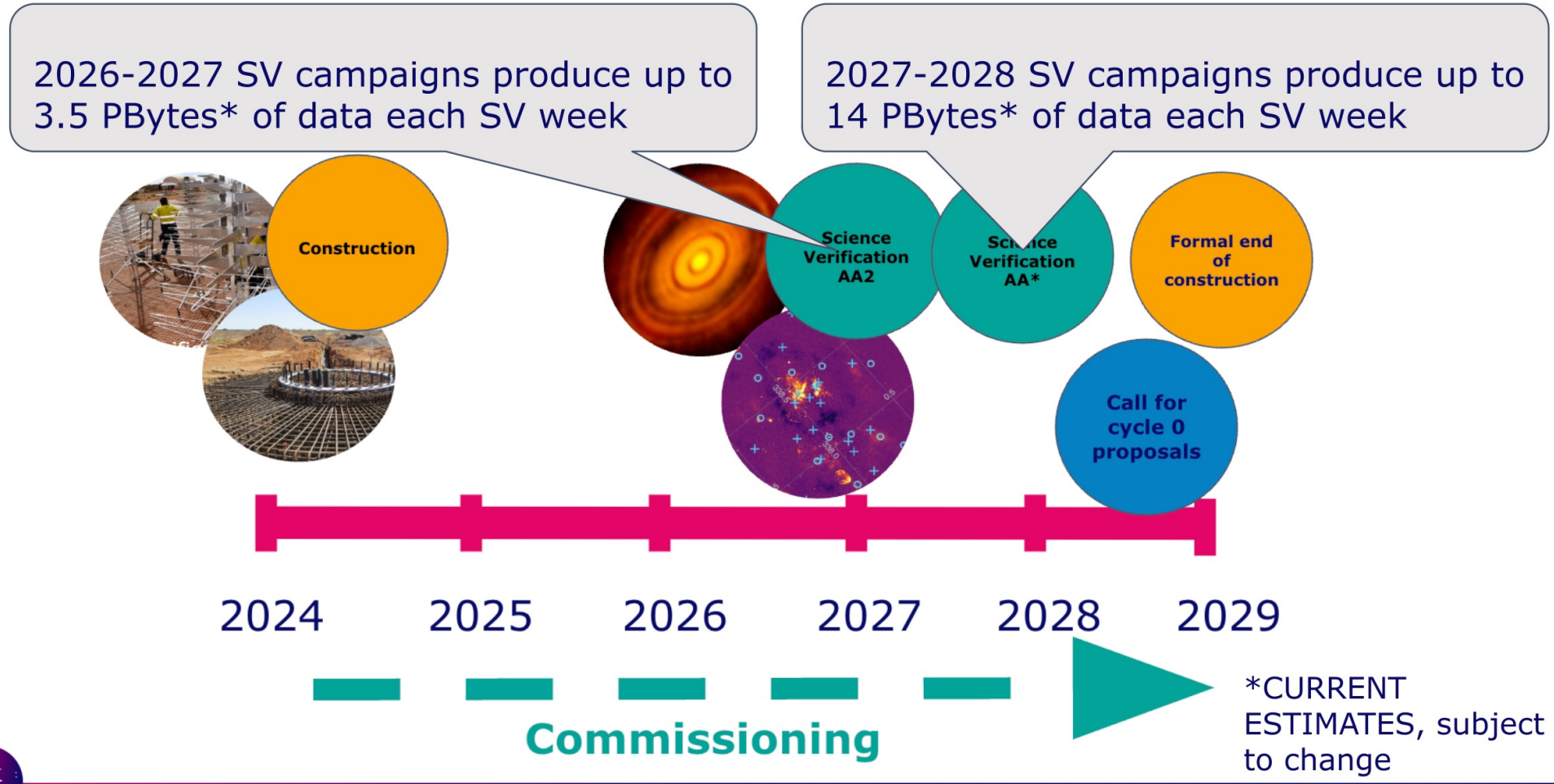
Single access portal ("Gateway")

The first image from an early version of SKA-Low

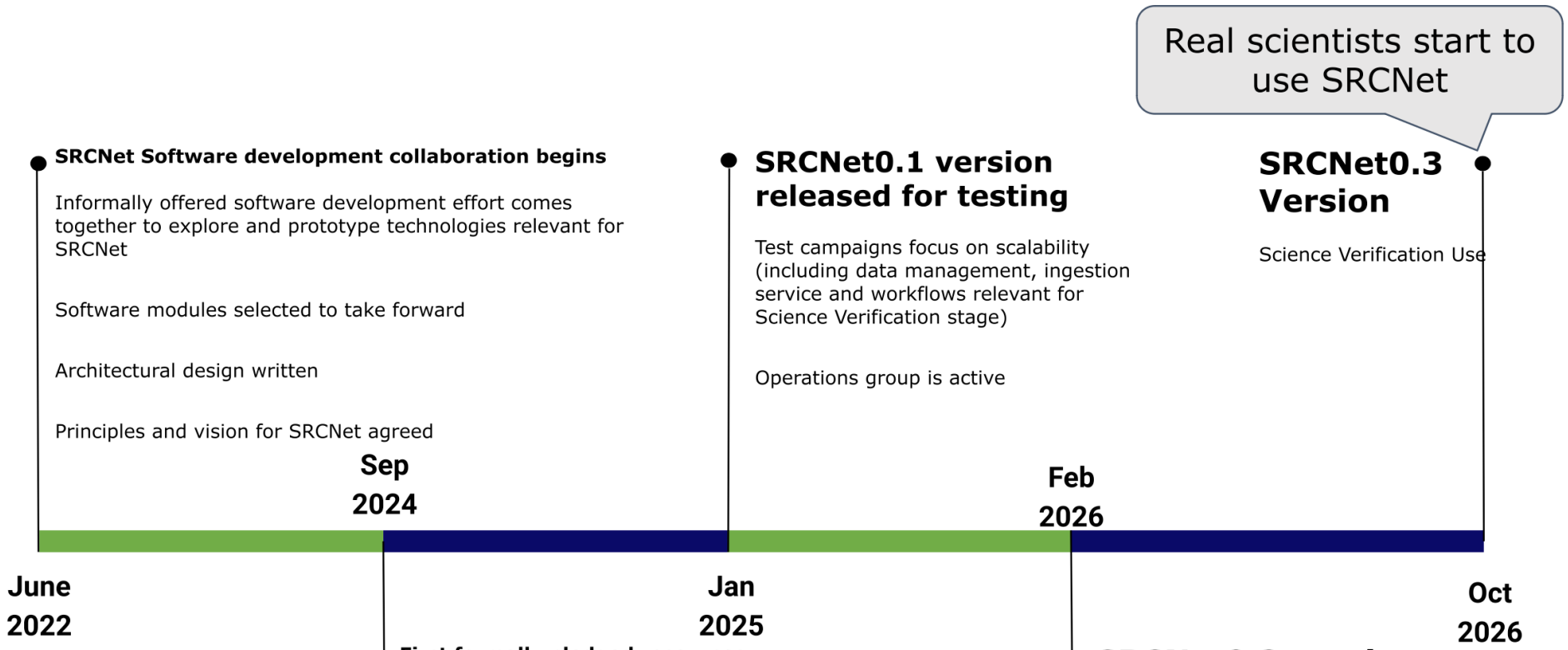
1,024 of the planned 131,072 antennas,



SKA Science Timeline



SRCNet 2026 Timeline



Top level roadmap: https://confluence.skatelescope.org/display/SNC/SRCNet+Documents?preview=/296945850/296945854/SRCNet%20Top%20Level%20Roadmap.pdf

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

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

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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

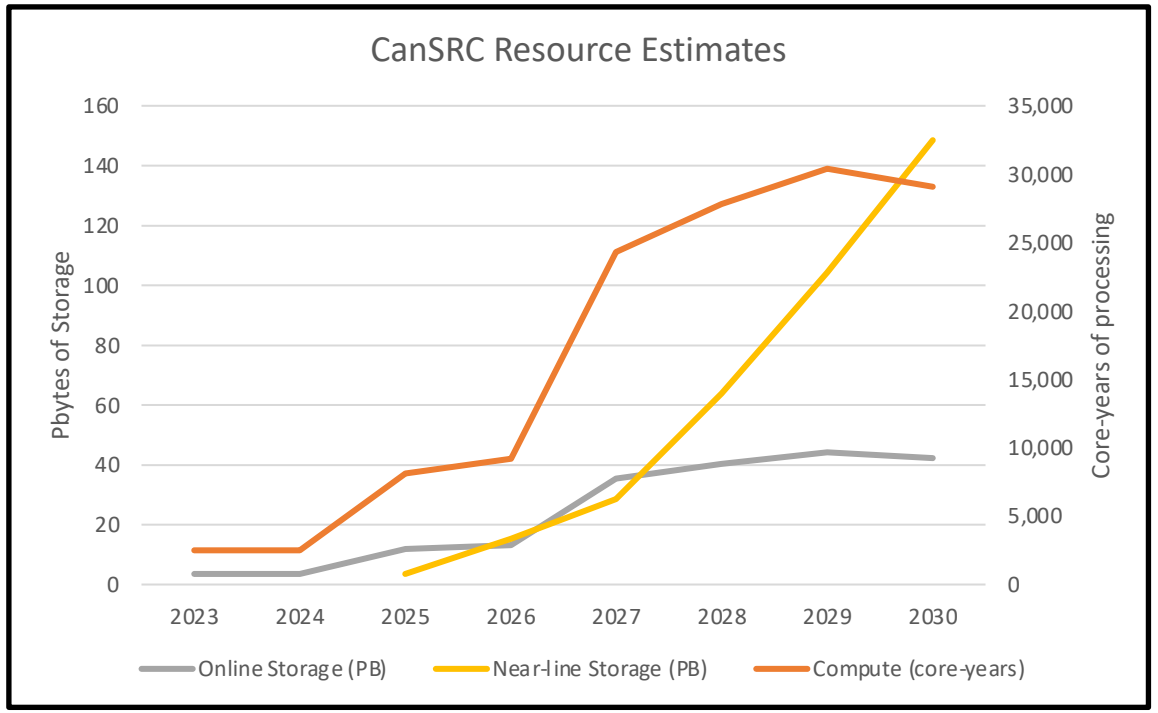
Two New Science Staff @ DRAO!

Robert Main

Eric Koch

More continuing staff scientist positions coming this fall!

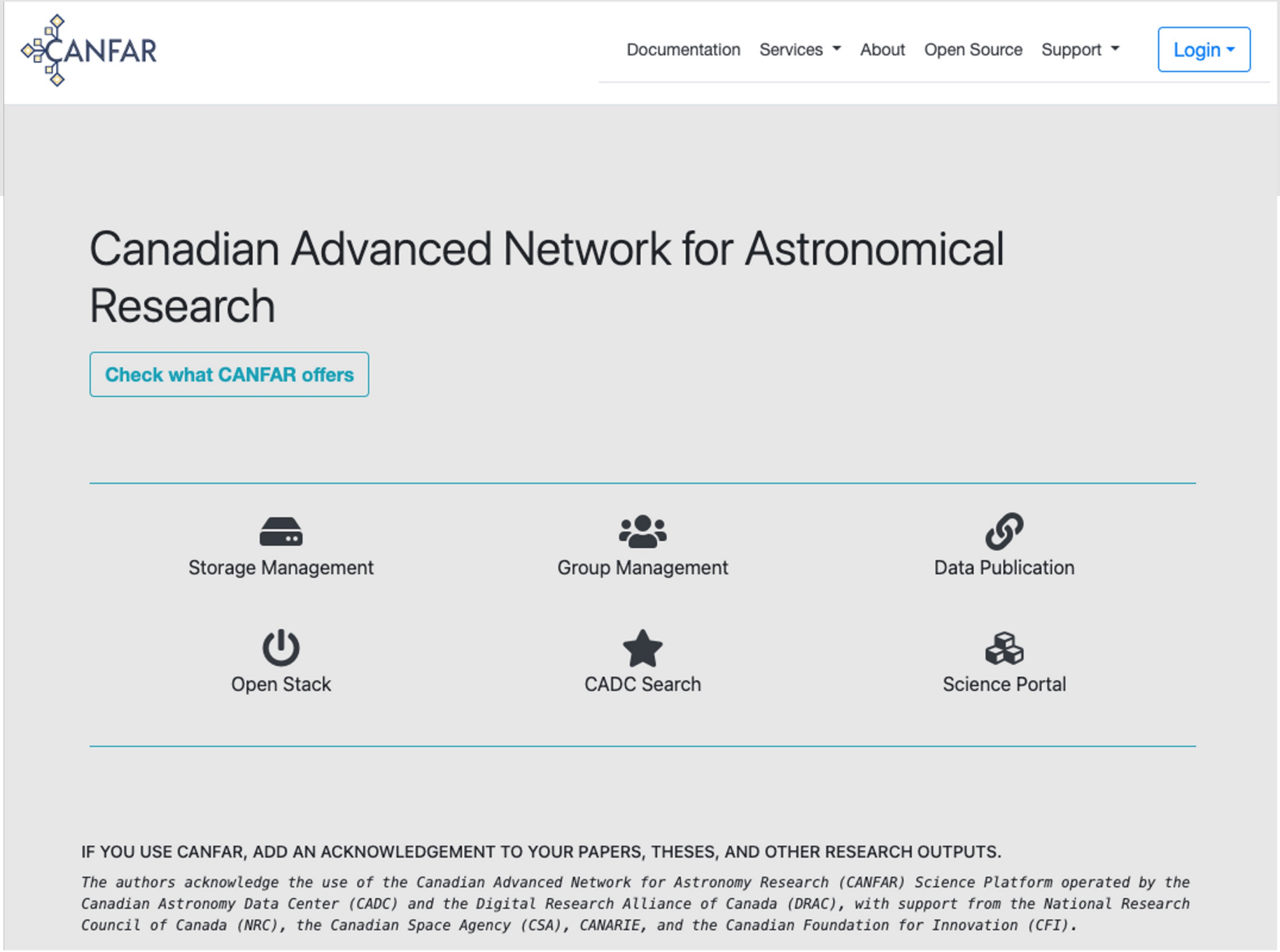
CanSRC Resource Estimates



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

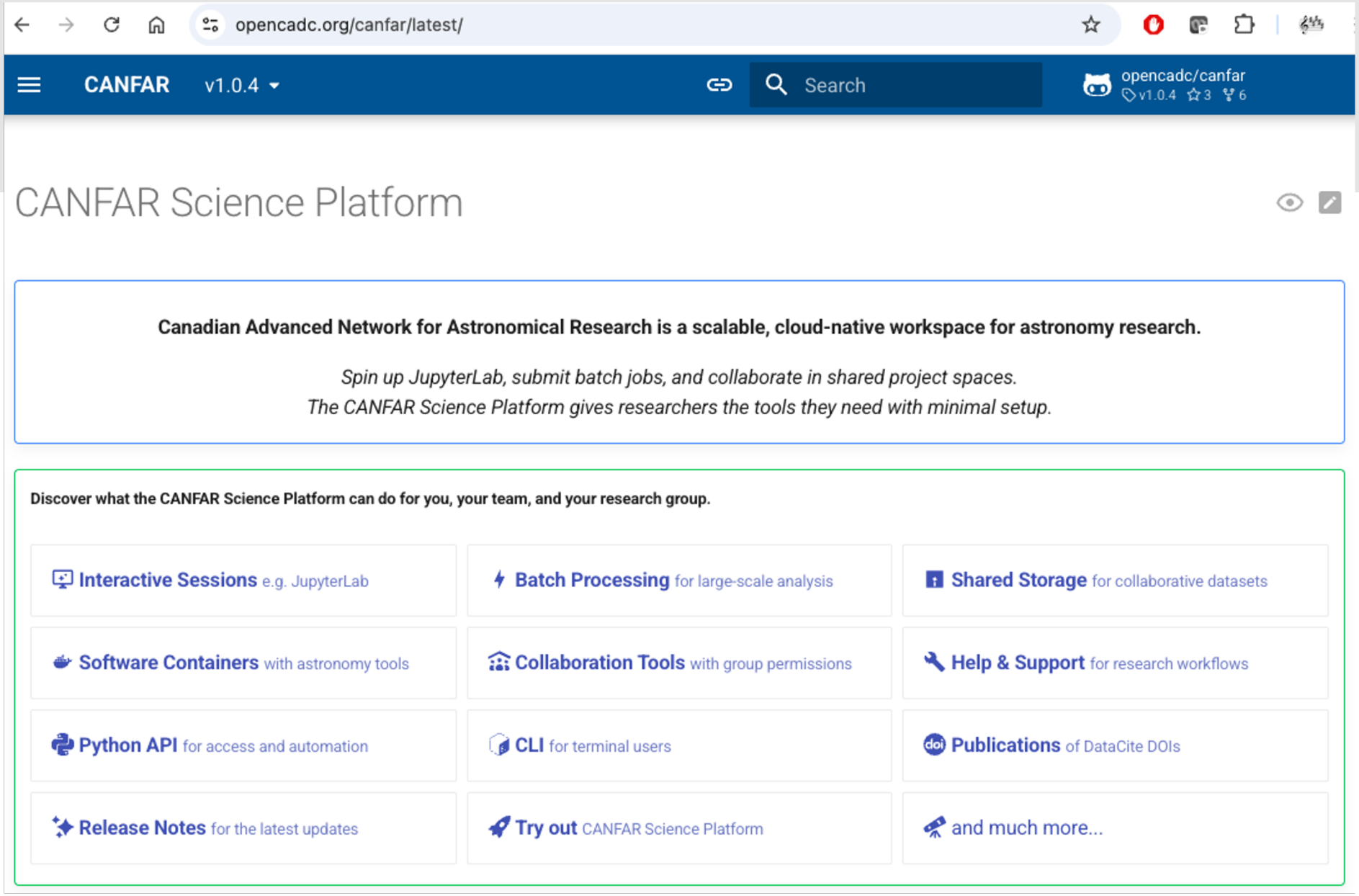
CANFAR

www.canfar.net

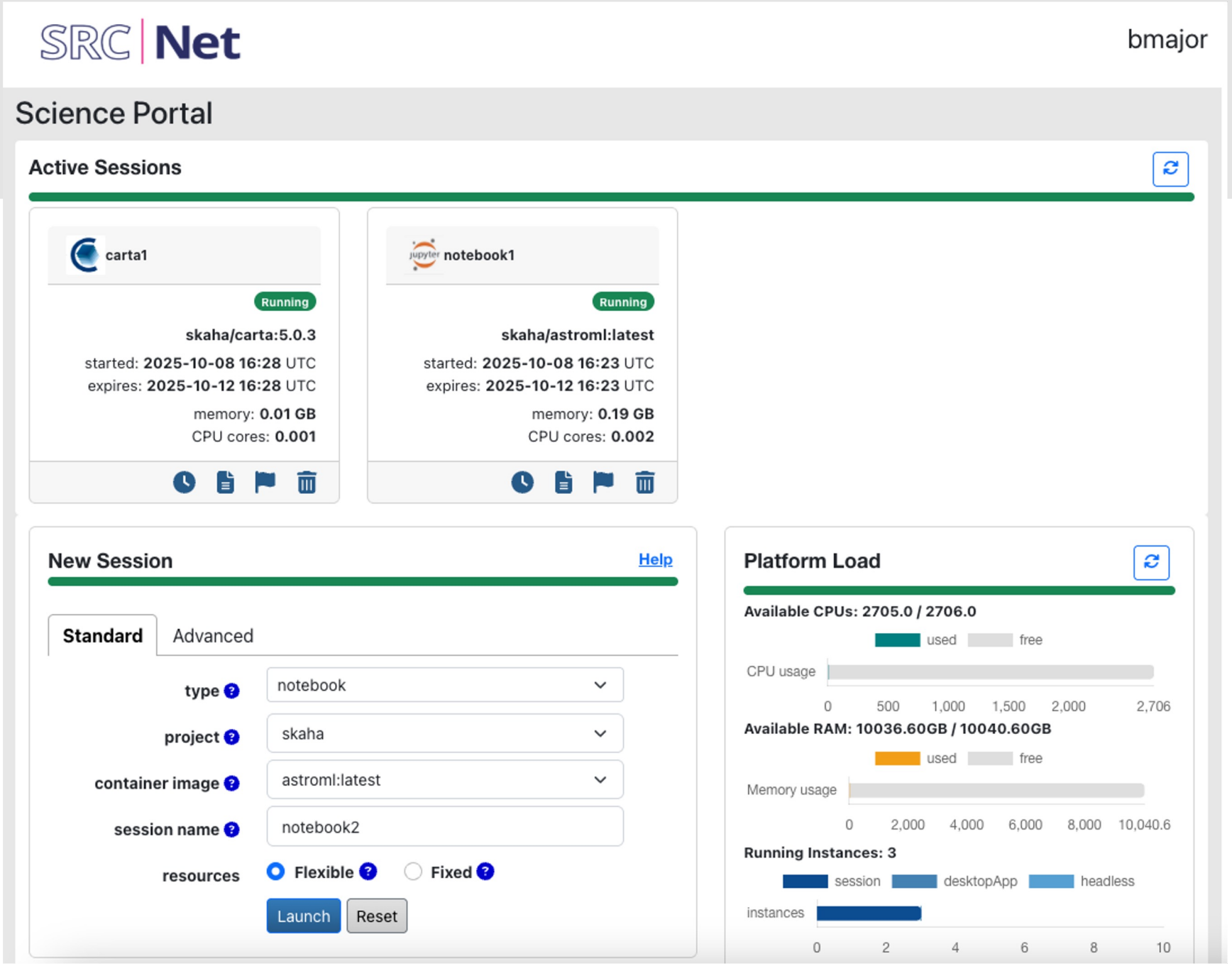


CANFAR

Documentation Improvements



CANFAR Science Portal



Canadian SKA Scientists

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

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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!

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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

SRCNet V0.1

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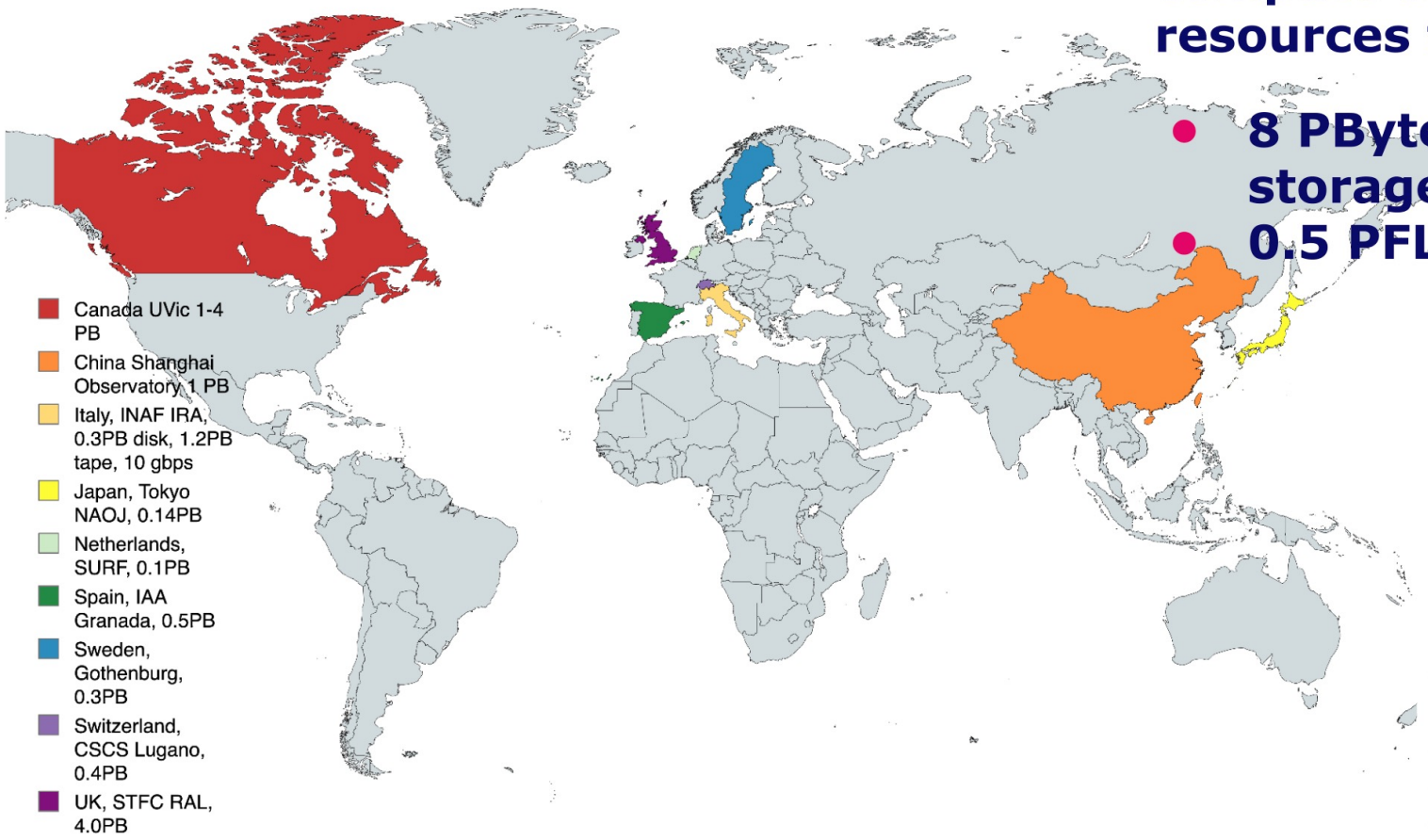
SRCNet0.1 planned sites



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

- 8 PBytes total storage
- 0.5 PFLOPS Compute