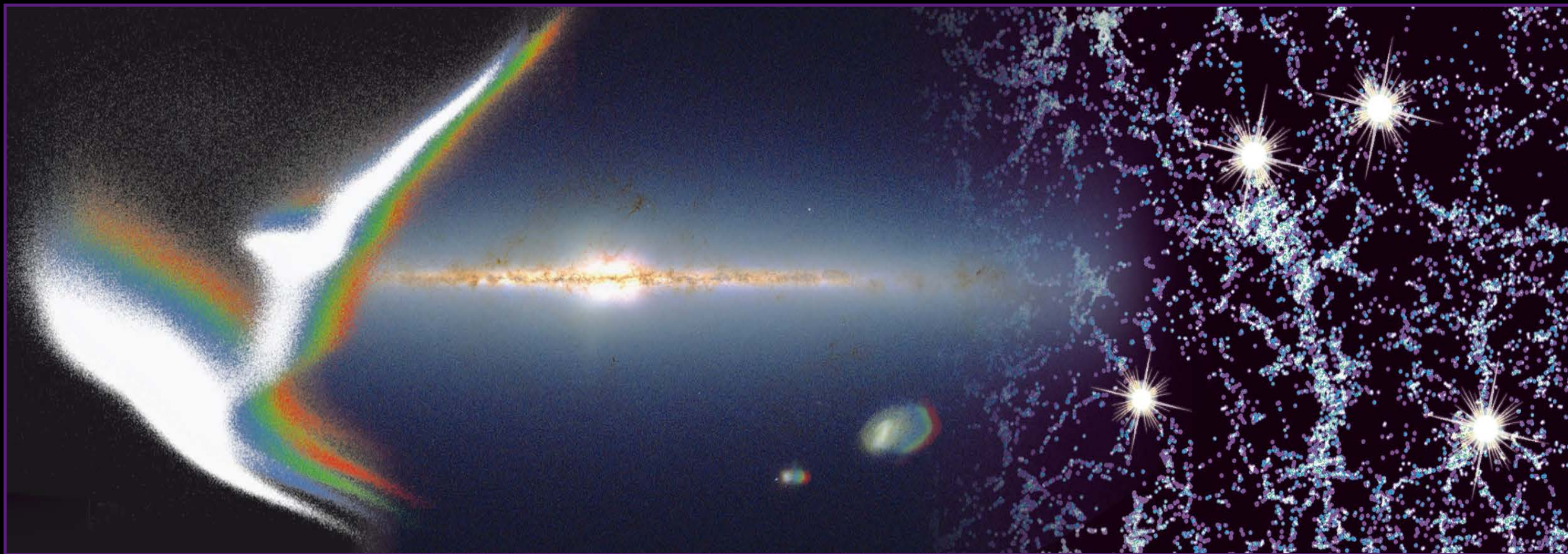




# SDSSV

*Pioneering Panoptic Spectroscopy*

2 hemispheres ♦ 10 spectrographs ♦ 6,000,000 objects  
**2020-2025**





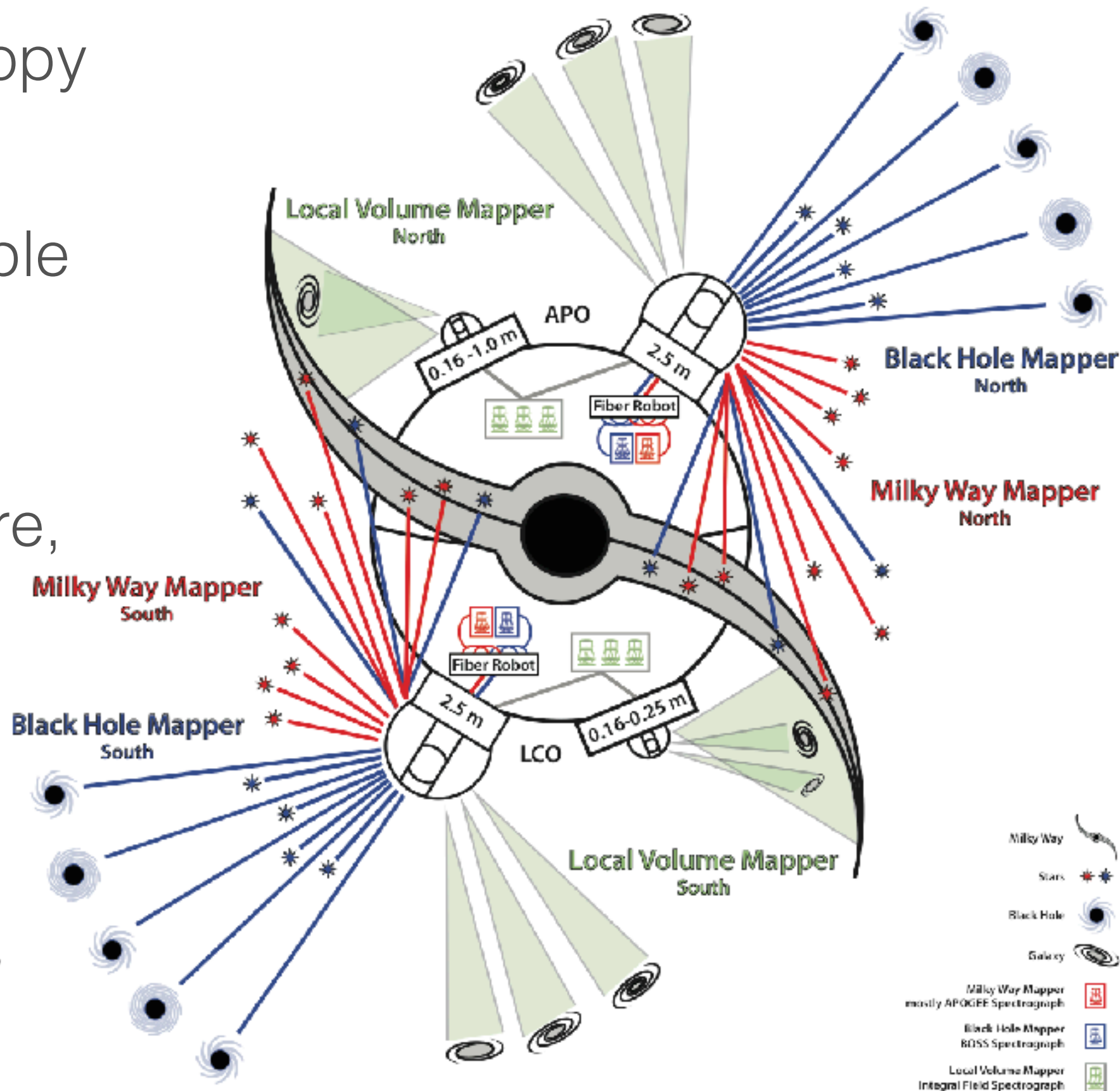
# SDSS-V in a nutshell

Panoptic spectroscopy

Two observatories,  
three surveys, multiple  
subprograms.

[Collaboration](#),

telescopes, hardware,  
software, data  
archiving.



# MAJOR SCIENCE DRIVERS

- **The Milky Way & Its Stars & Their Planets:** Dissecting the formation history of the Milky Way and the history of its stars with the largest survey of stars with high-resolution spectroscopy
- **The Black Holes:** Monitoring the growth of black holes through accretion and measuring their masses with the only high cadence time domain spectroscopic survey in the 2020s.
- **The Galaxies:** Determining the relationship between star formation and the interstellar medium in the Milky Way and nearby galaxies with the widest field integral field spectroscopic program.

*RICH SURVEY DATASET!*

# WHAT COMES AFTER SDSS-IV

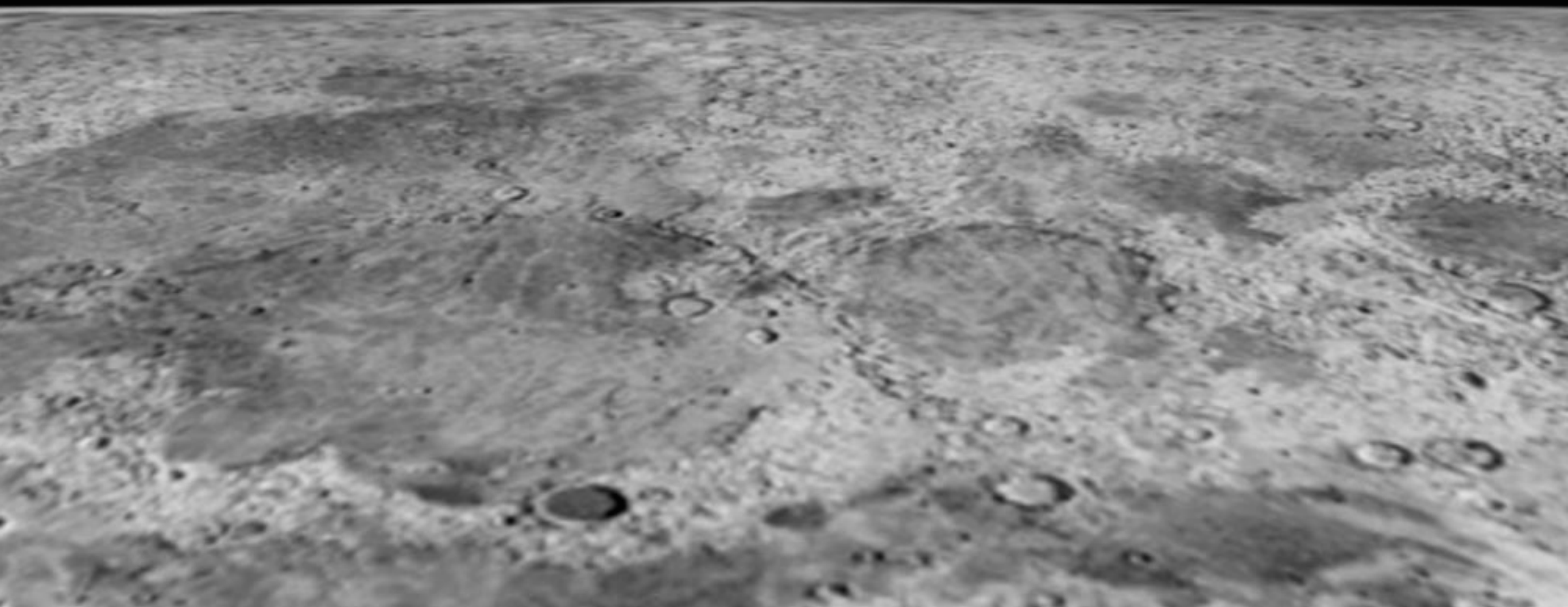
- SDSS-IV goes through mid-2020
- Planning process initiated by ARC through its Futures Committee
- SDSS is a SCIENTIFIC COLLABORATION not an Institution
- Each incarnation needs to be created “anew” based on the scientific needs and interests in the field
- Is there a “peerless Next”?

# ASTRO LANDSCAPE

## 2020-2025



- Time Domain Astronomy
- Big Data Science in Astrophysics
- Stellar Astrophysics Revolution
- Gravitational Wave Astronomy



AS4?

DESI

Gaia

LSST

TESS

JWST

How competitive are SDSS  
facilities in terms of fundamental  
potential given this landscape?

WFIRST

PFS

ELTs

CMB-S4

K2

Plato

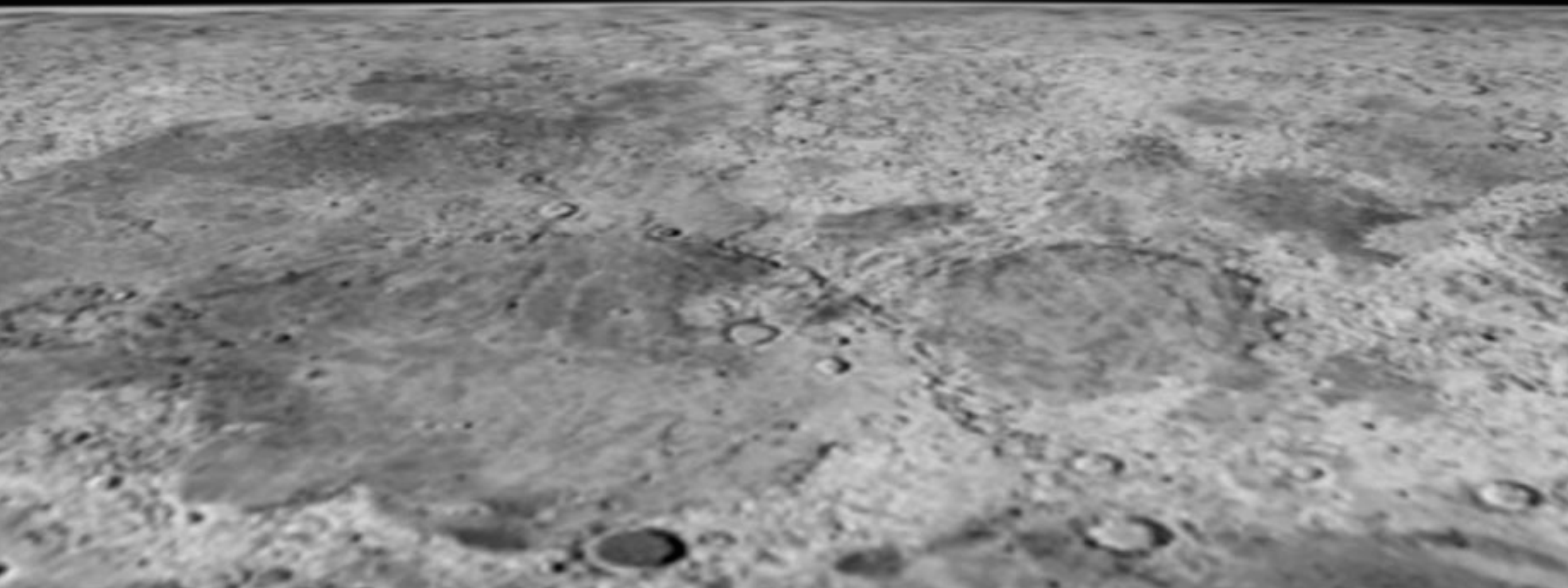
4MOST



# WHAT ROLE WILL SDSS PLAY?



1. Wide-field infrared capability (totally unique)
2. Dual Hemisphere coverage
3. Gold-standard for collaboration infrastructure, data archive & distribution



3/2016

5/2016

9/2016

10/2016

11/2016

## SC Formed

Juna Kollmeier (Chair)

Conny Aerts

Scott Anderson

Matt Bershad

Mike Blanton

Dan Eisenstein

Dani Maoz

Hans-Walter Rix

Connie Rockosi

David Weinberg

Bruce Gillespie (ex officio)

Rene Walterbos (ex officio)

Proposal  
Writing  
Workshops

Calls for Full  
proposals

Calls for  
Letters of  
Intent

External  
Reviews  
complete  
October 19

Recommendations  
to ARC/OCIS



3/2017

6/2017

9/2016

11/2017

Now

## MC Formed

Juna Kollmeier (Director)

Hans-Walter Rix

Gail Zasowski

Scott Anderson

Niv Drory

Jennifer Johnson

Jon Bird

Guillermo Blanc

Nathan DeLee

Kathryn Kreckel

Andrea Merloni

Melissa Ness

Yue Shen

Andrew Tkachenko

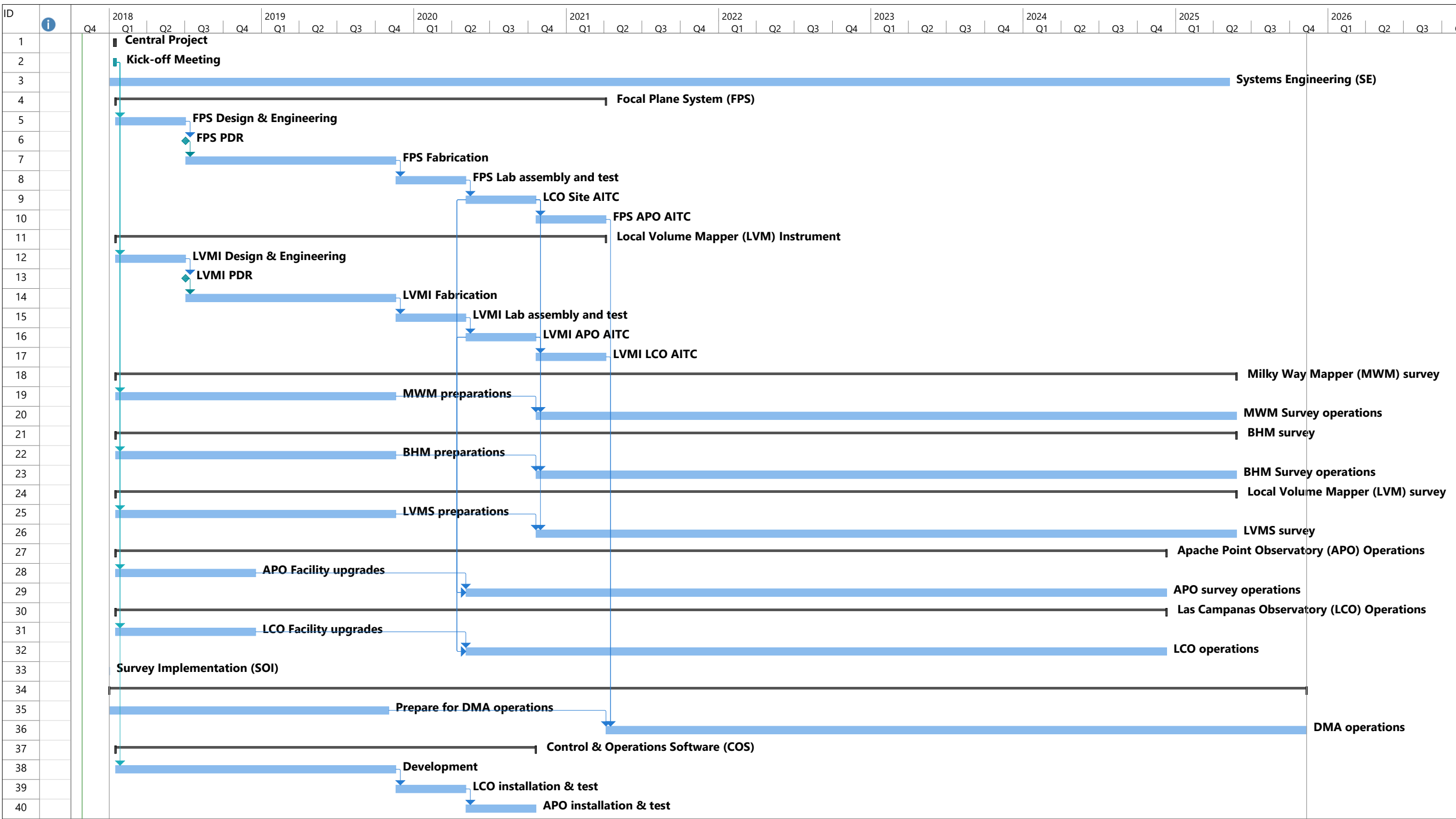
Proposal  
to Sloan  
Foundation

External  
Reviews  
complete

SDSS-V!

**GO!**

# SDSS-V Timeline



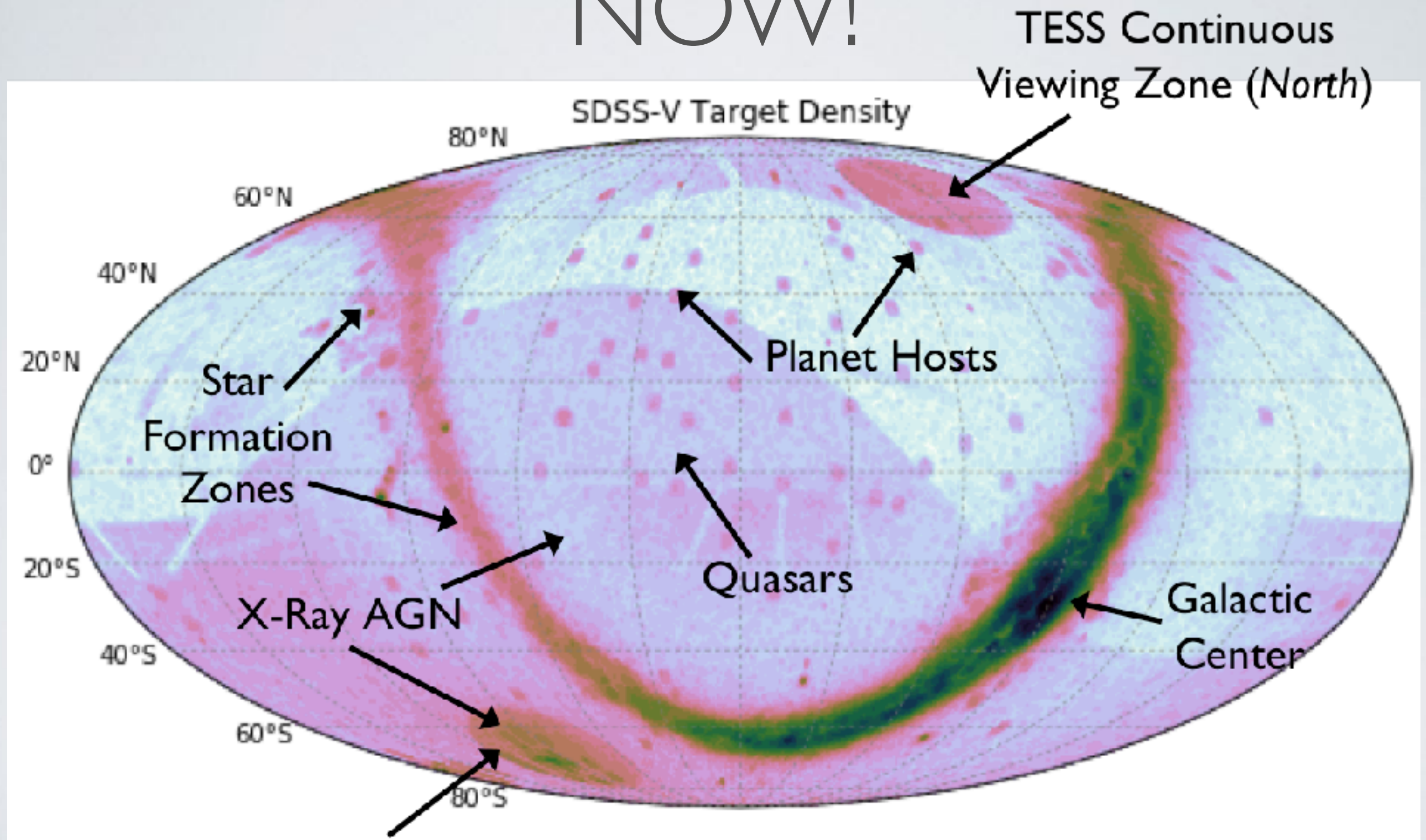
Project: AS4 schedule		Task	Project Summary	Manual Task	Start-only	Deadline	↓
Date: Sat 10/28/17		Split	Inactive Task	Duration-only	Finish-only	Progress	▬
		Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress	▬
		Summary	Inactive Summary	Manual Summary	External Milestone		◆

# How To Join?

- \* More information at <http://www.sdss.org/future>
- \* Principles of Operation are approved by the ARC Board of Governors
- \* Full membership \$1.15M USD
- \* Single-slot membership \$230k USD (we are also accepting Euros)
- \* 3-slot institutional membership or Participation Group gets vote on Advisory Council!
- \* First payment due on June 30, 2018! Join now!



# SURVEY PLAN BEING MADE NOW!



# INSTITUTIONAL PARTNERS

- Full Members: University of Utah, MPE, MPIA, Yale
- MoUs in draft + Associate Members: KU Leuven, Carnegie Institution for Science, Chilean Participation Group, Gotham Participation Group (NYU, CCA, Columbia), UIUC, TCU, Harvard, OSU, NMSU, ICORE, U. Wisconsin, Warwick, Vanderbilt, U. Washington, KIAA, Penn State, AIP
- Seed fund contributors: Georgia State, Caltech, STScl,
- Active Discussions: University of California, MPA, MIT, U. Kentucky, Johns Hopkins University, Australia National University, NOAO, NOAC, University of Heidelberg, Oxford, York University, University of St Andrews, UVA, UNAM, Monash