

# The Path Forward for Cosmic Explorer

Matthew Evans, MIT  
on behalf of the Cosmic Explorer Team

Image: Eddie Anaya  
(Undergrad, Art, Cal State Fullerton)

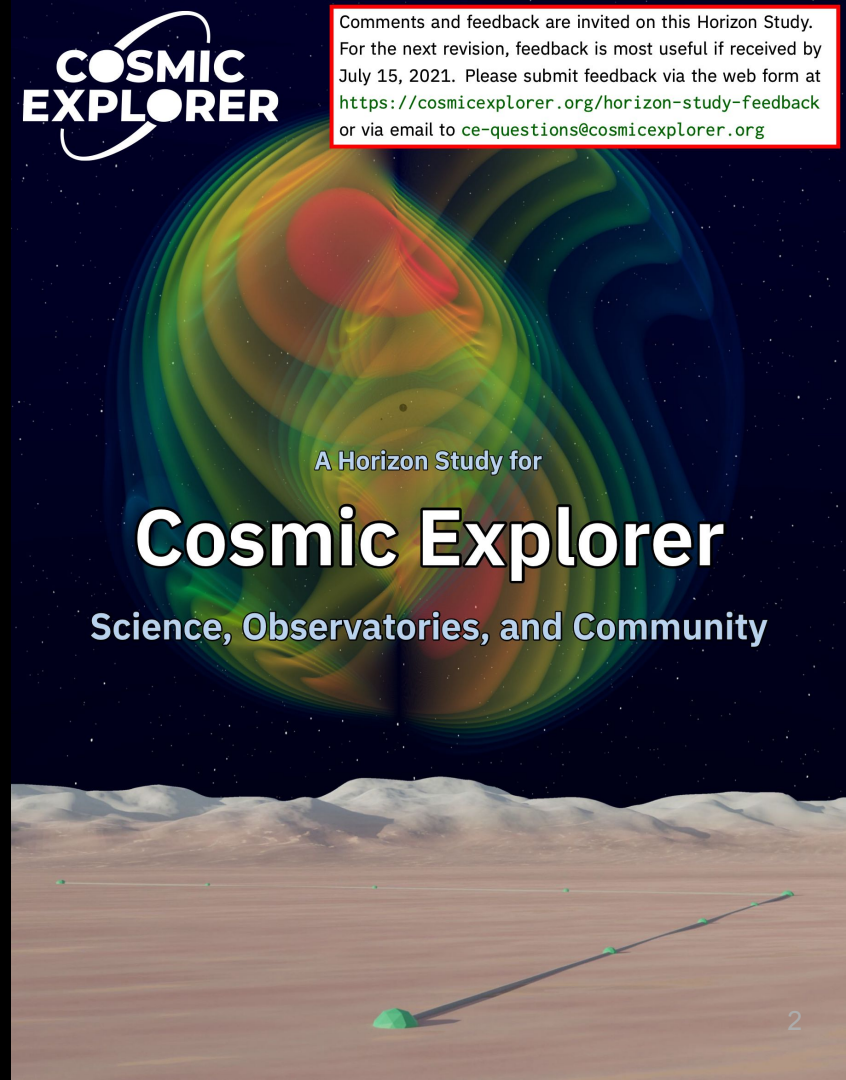


# The CE Horizon Study

- The Cosmic Explorer Horizon Study is now complete, and we thank all of you for your input. We couldn't have done it without you, and we will keep you involved as we move forward.
- Information on the Horizon Study, the CE Consortium, and about CE in general can be found at [cosmicexplorer.org](https://cosmicexplorer.org).



Comments and feedback are invited on this Horizon Study. For the next revision, feedback is most useful if received by July 15, 2021. Please submit feedback via the web form at <https://cosmicexplorer.org/horizon-study-feedback> or via email to [ce-questions@cosmicexplorer.org](mailto:ce-questions@cosmicexplorer.org)



A Horizon Study for

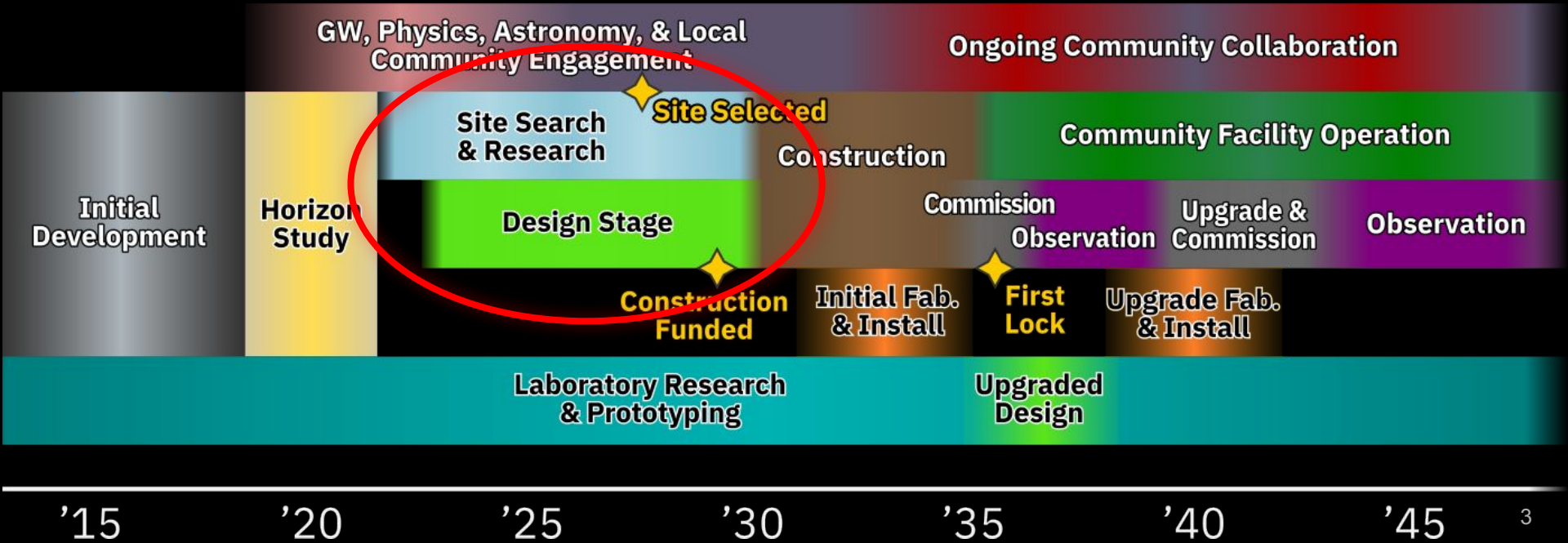
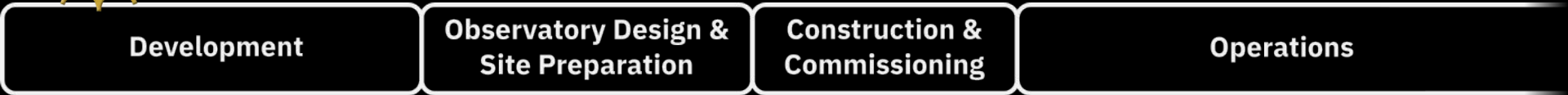
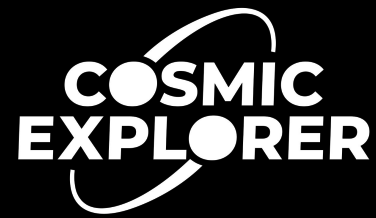
## Cosmic Explorer

Science, Observatories, and Community



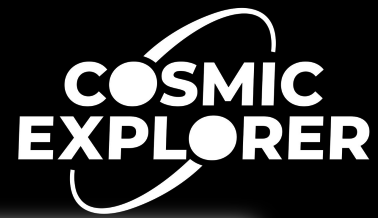


# Cosmic Explorer Timeline (CEHS)





# From Development to Design Phase

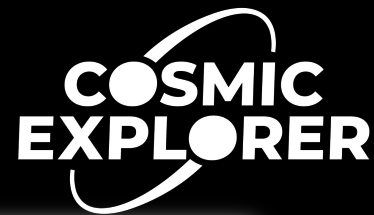


Remaining positive about ideas for DOE and other agency/foundation funding, our primary guide is currently the NSF Research Infrastructure Guide





# From Development to Design Phase



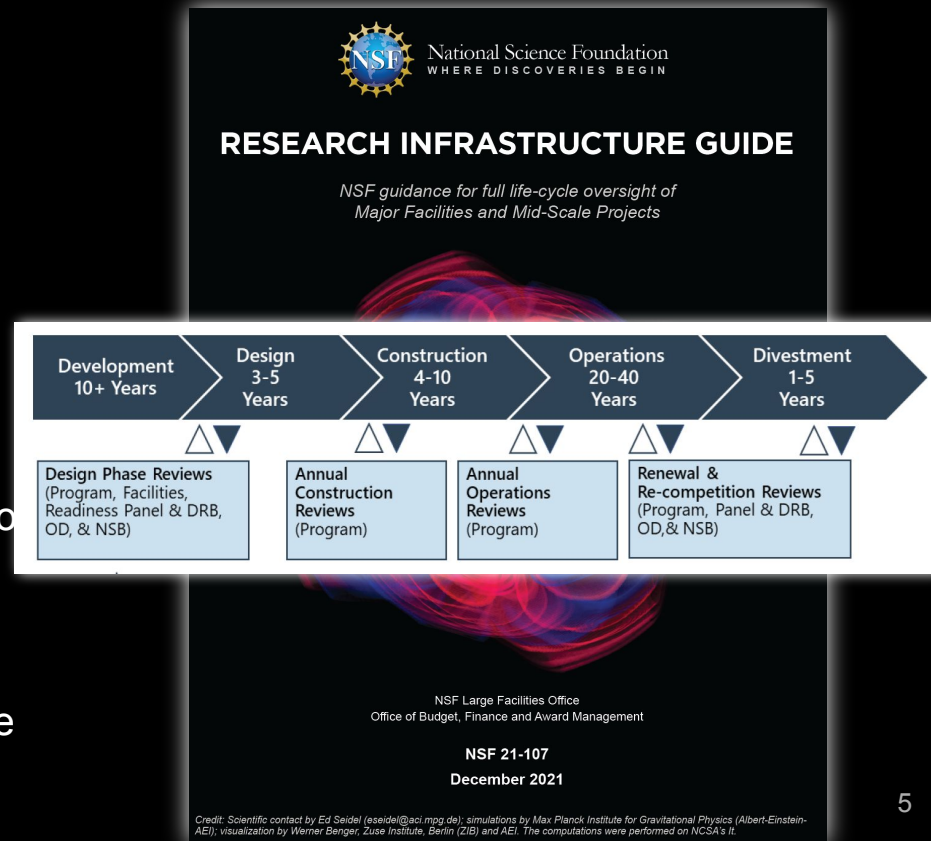
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Currently in Development Phase

- “in which initial ideas emerge and a **broad consensus is built** for the potential long-term needs, priorities, and general requirements”

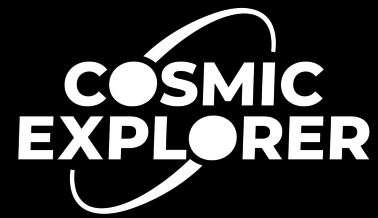
With the Horizon Study, the [Astro2020](#) report, and Dawn Report, we anticipate NSF recommendation to enter Design Stage in the near future

- “where detailed, construction-ready budget estimates, schedules, technical specifications and drawings, and management processes are developed”

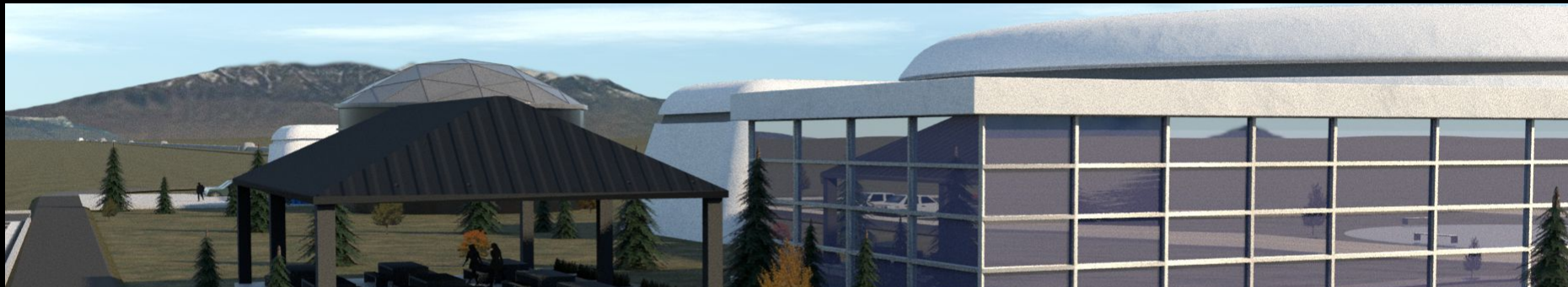




# NSF Proposals and Coordination (our plan, with input from NSF)



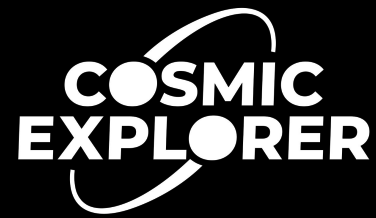
- One core Conceptual Design proposal (from multiple institutions)
  - establish a project office, write the initial Project Execution Plan (PEP), address governance and organization questions, etc.
- In parallel, pursue (**with CE consortium and LSC**) a variety of grants for design-focused R&D
  - Stefan's talk addressed this, but I will emphasize that while the CE Project will work to facilitate and coordinate R&D efforts, the research will happen in the community and will be funded through the usual proposal process. **We need your participation!**





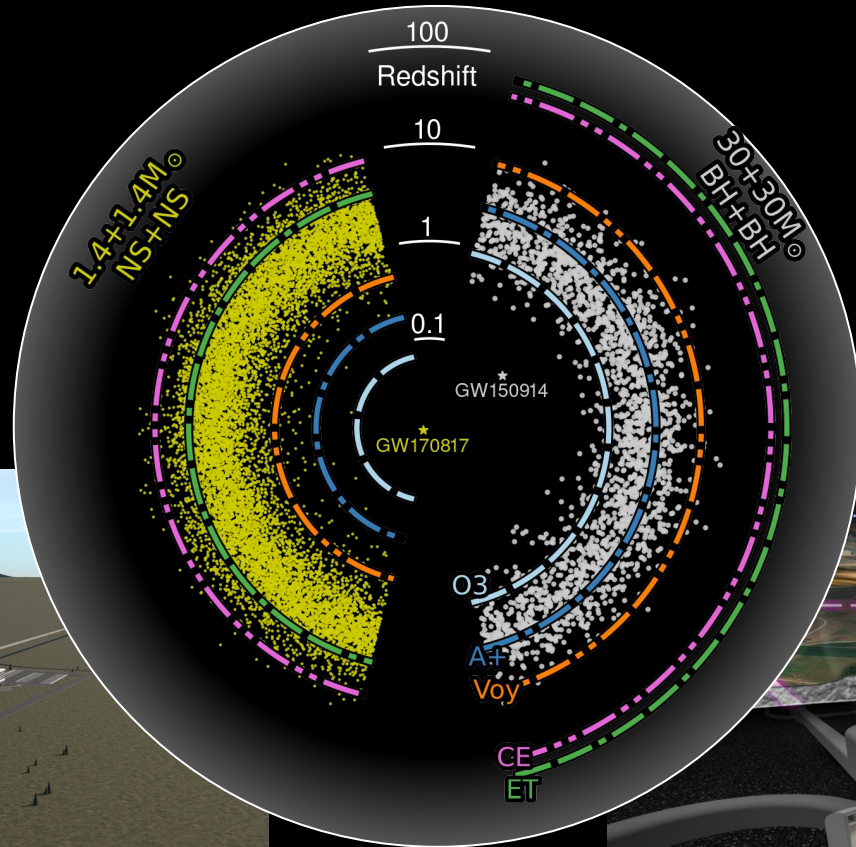


# Building a Global 3G Network



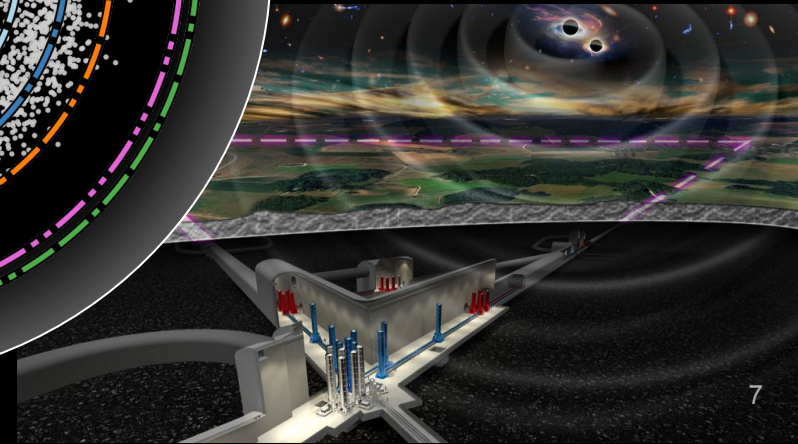
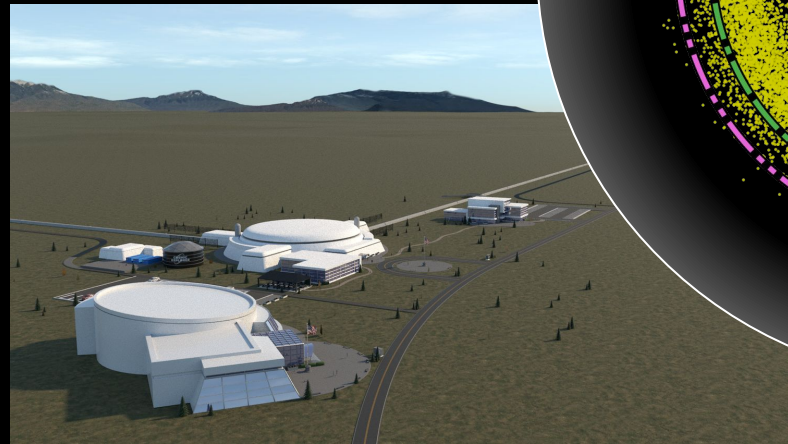
We are working with our international colleagues to coordinate our efforts globally.

Cosmic Explorer



And bringing EM observatories into roadmapping discussions, such as Dawn VI.

Einstein Telescope





# The Message

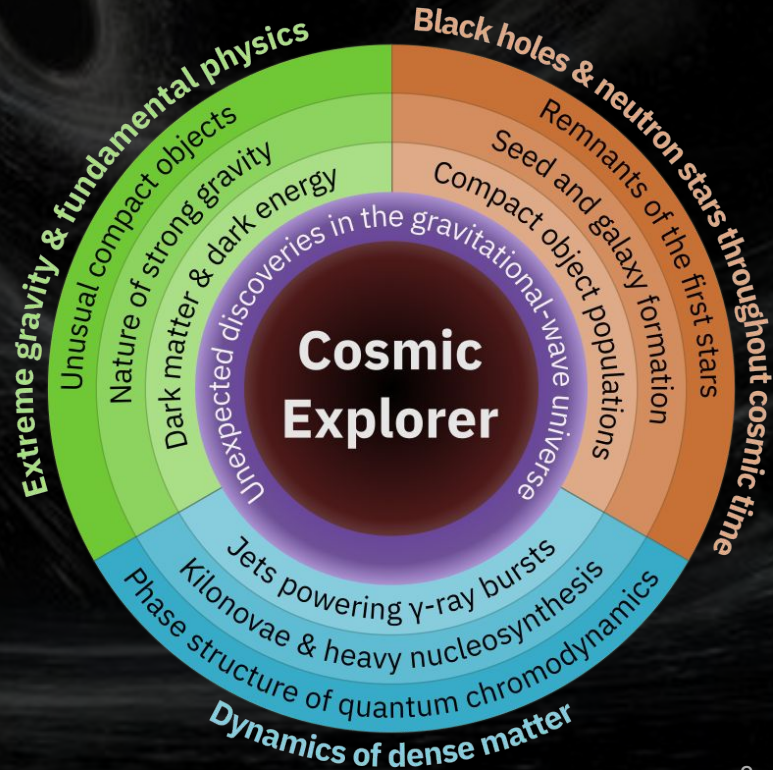


There is great science to be done with Cosmic Explorer, and the scientific community expects us to continue our leadership in this area.

With the completion of the Horizon Study, Astro Decadal and **Dawn VI**, we are ready to get started on the CE Design stage.

Building observatories of this scale takes time, and resources.

**We need your support to be evident!**







# Endorsing the Dawn Report

Community support for the **Dawn Report** is important to its utility to the NSF, and thus to the future of our field.

**If we are to expand this field to explore its full potential, we need your support.**

You can read the **Dawn Report** here:

[arXiv:2112.12718](https://arxiv.org/abs/2112.12718)

and add your name to the list of endorsers here:

<https://bit.ly/3t8XMDz>

or feel free to drop a note to me at **[dhs@mit.edu](mailto:dhs@mit.edu)**