Funded by the National Science Foundation, Grant #2127548

Panel: "If I knew then what I know now, I would have never designed it this way": Approaches to CI conceptualization and design

Co-leads: Anirban Mandal and Robert Casey

Panel at the 2024 NSF Cyberinfrastructure for Major Facilities Workshop

USC Viterbi School of Engineering Information Sciences Institute

INDIANA UNIVERSITY

UNIVERSITY OF NOTRE DAME

THE UNIVERSITY OF UTAH

TEXAS TECH UNIVERSITY

renci

Funded by the National Science Foundation, Grant #2127548

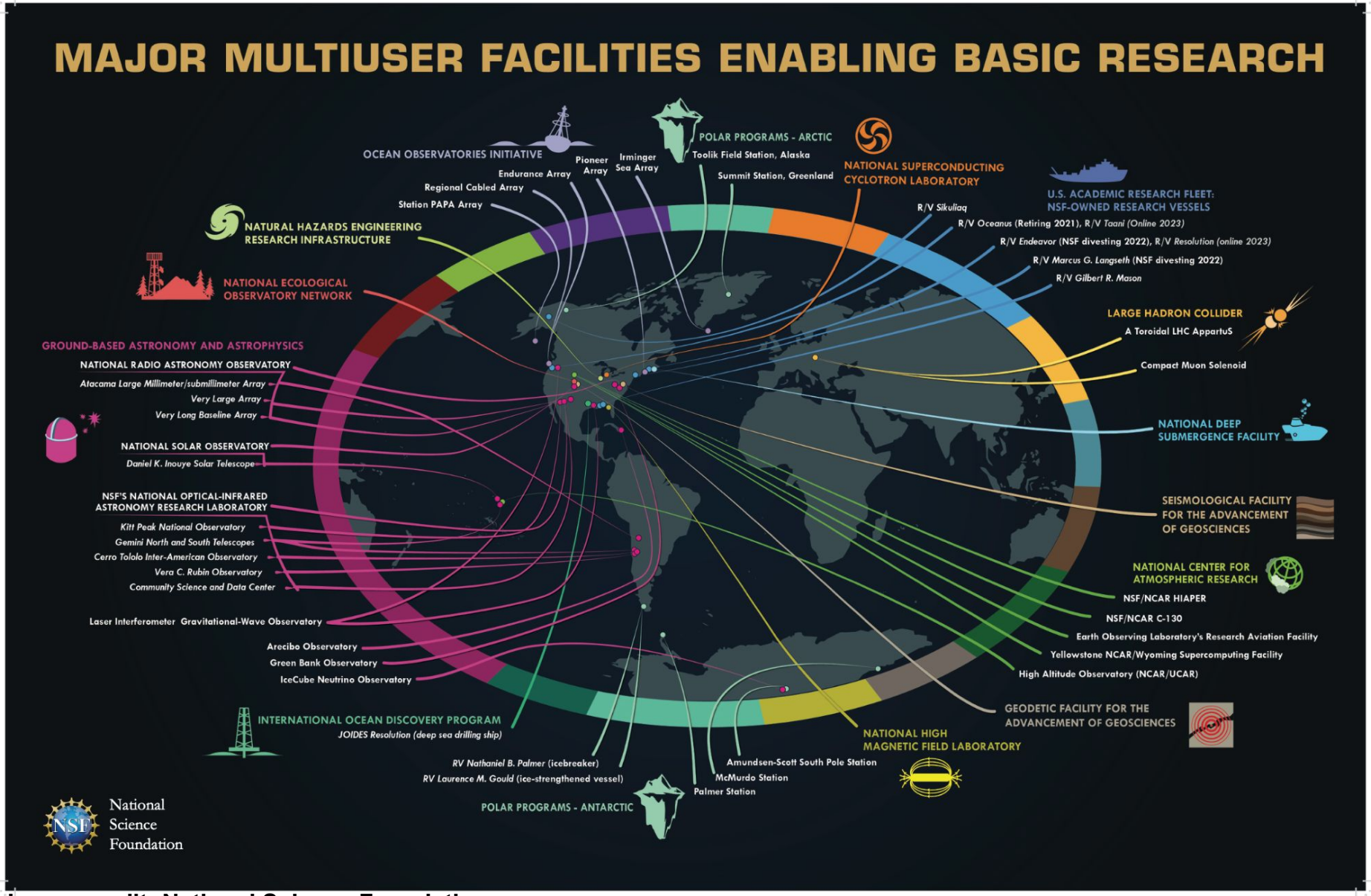


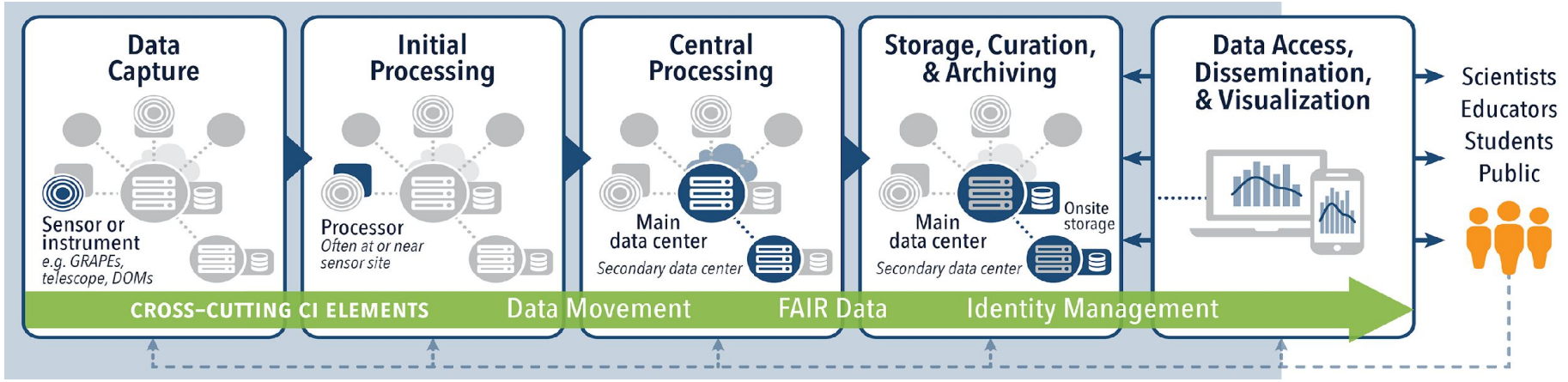
Image credit: National Science Foundation

NSF Major Facilities

Major Facilities rely on complex **cyberinfrastructure (CI)** to transform raw data into more interoperable and integration-ready data products

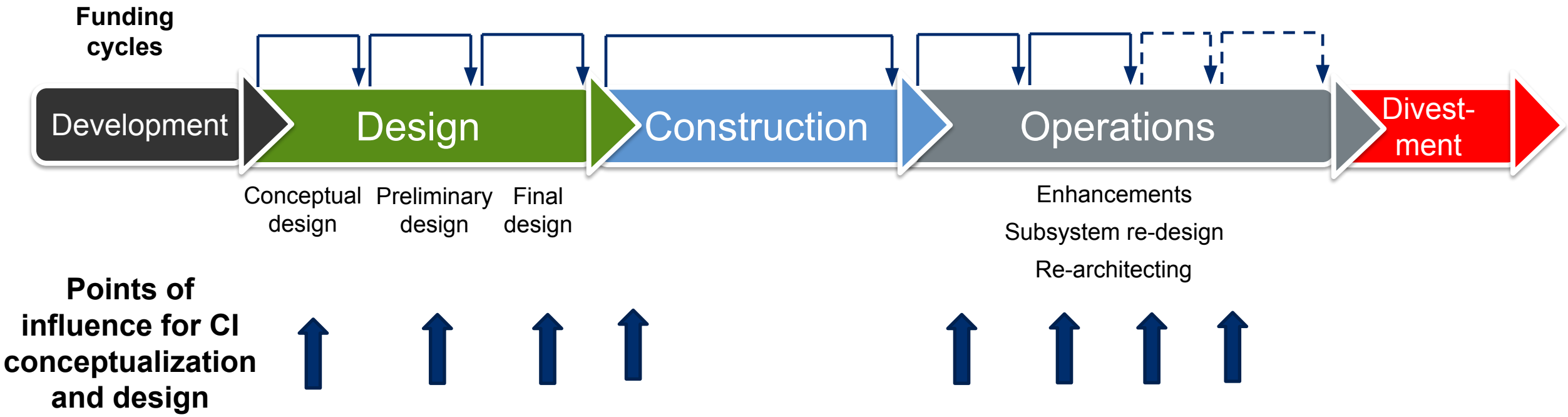
CI for Major Facilities: Challenges

- Technical Challenges
- Operational Challenges
- Collaboration Challenges
- Socio-technical Challenges



Funded by the National Science Foundation, Grant #2127548

Major Facilities Lifecycle



Funded by the National Science Foundation, Grant #2127548

Guiding Questions for the Panelists

1. What were some unexpected outcomes of CI design (during planning/design, construction, enhancements), which were discovered during deployment - and what are the top lessons learnt from that experience that might translate to the broader community ?
2. What are some of the best practices for involving the community of MF users to glean the CI requirements during design, construction or enhancements ?
3. What were the major steps in the CI conceptualization and design process ?

Meet the Panel

Robert Casey, Software Section Manager, EarthScope Data Services, representing **Earthscope / SAGE-GAGE**

Dan Stanzione, Associate Vice President for Research (UT Austin) and Executive Director, TACC, representing **LCCF**

Sabine Botha, Asst Research Professor, Biodesign Beus CXFEL Lab and Department of Physics, representing **CXFEL**

Frank Wuerthwein, Director of SDSC, OSG Executive Director, representing **LHC**

Funded by the National Science Foundation, Grant #2127548

Panelists' slides