



U.S. DEPARTMENT OF
ENERGY

Office of
Science

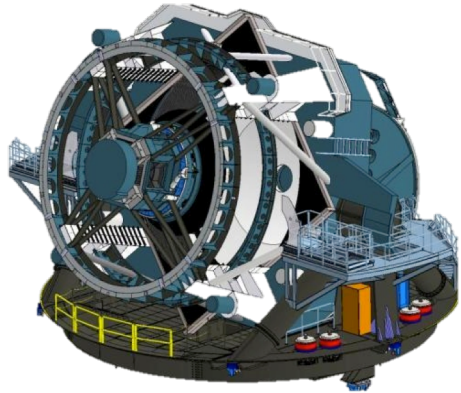
LSST Operations

LSST UK, May 2019

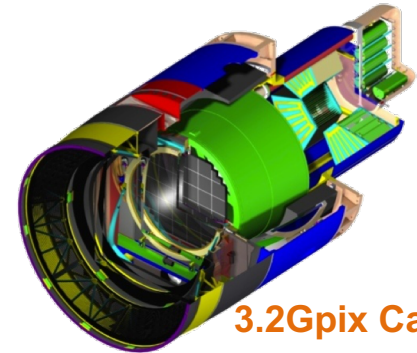
Robert Blum

Acting Director for LSST Operations

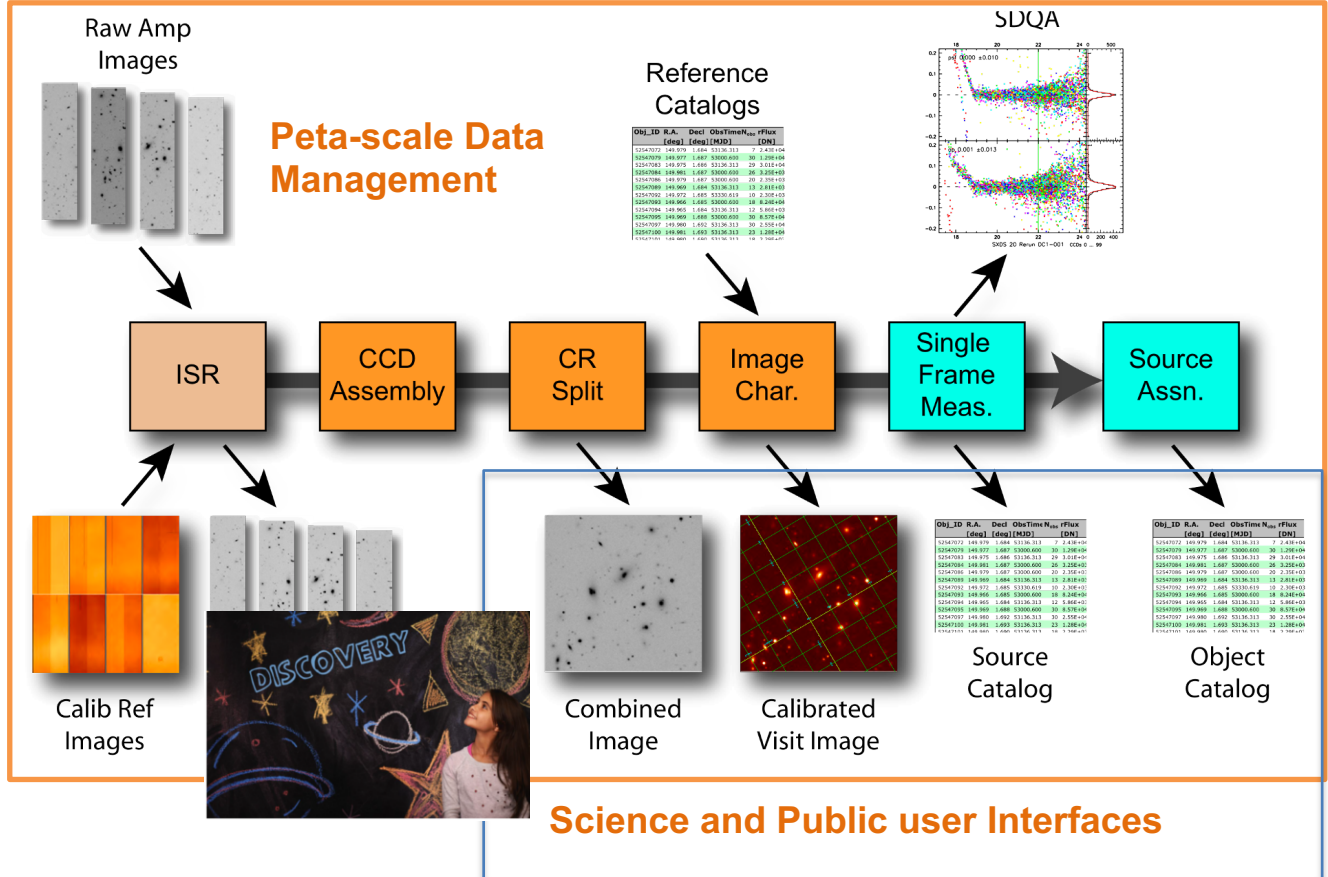




8.4m Telescope



3.2Gpix Camera



Cosmology

Dark energy
Dark matter

Milky Way

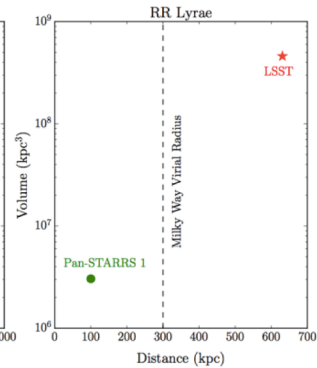
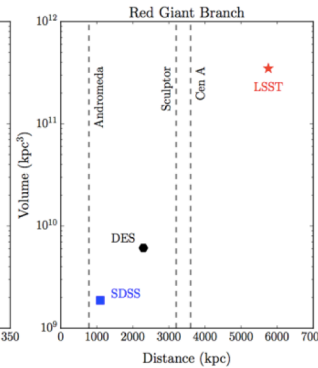
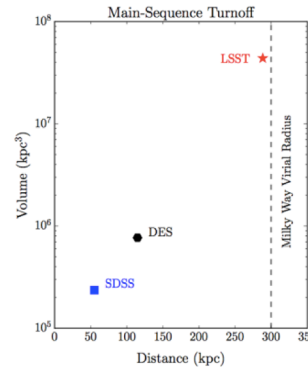
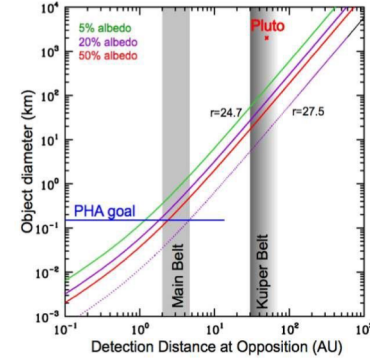
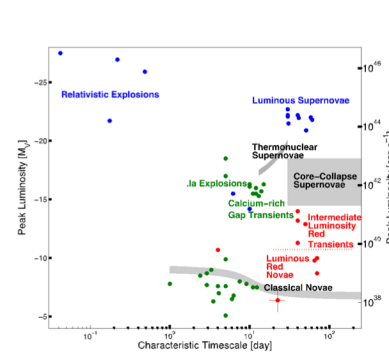
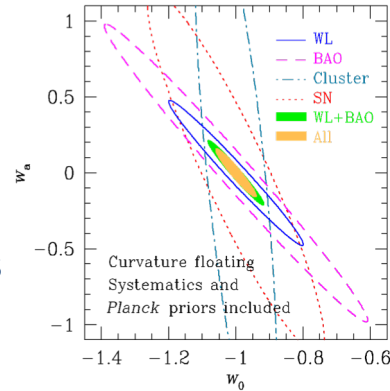
Stellar populations
Stellar Streams, Dwarf Galaxies

Solar System

Near-Earth Objects
Trans-Neptunian Objects
Comets

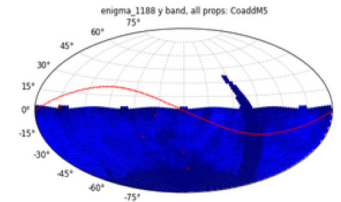
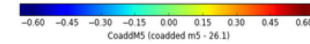
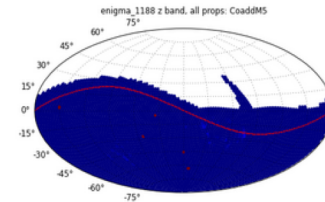
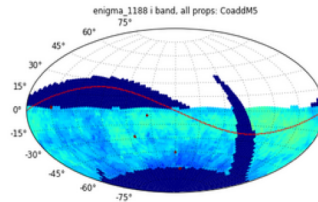
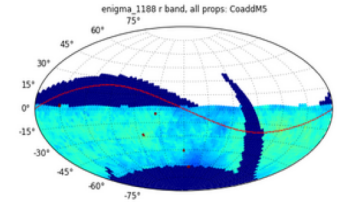
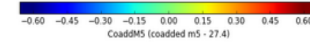
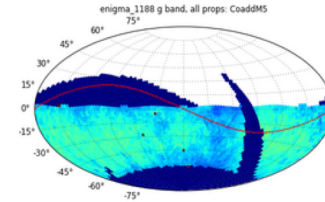
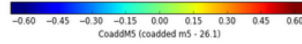
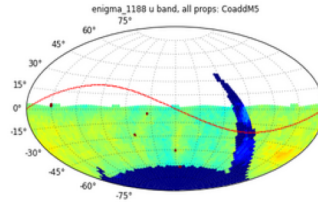
Dynamic Universe

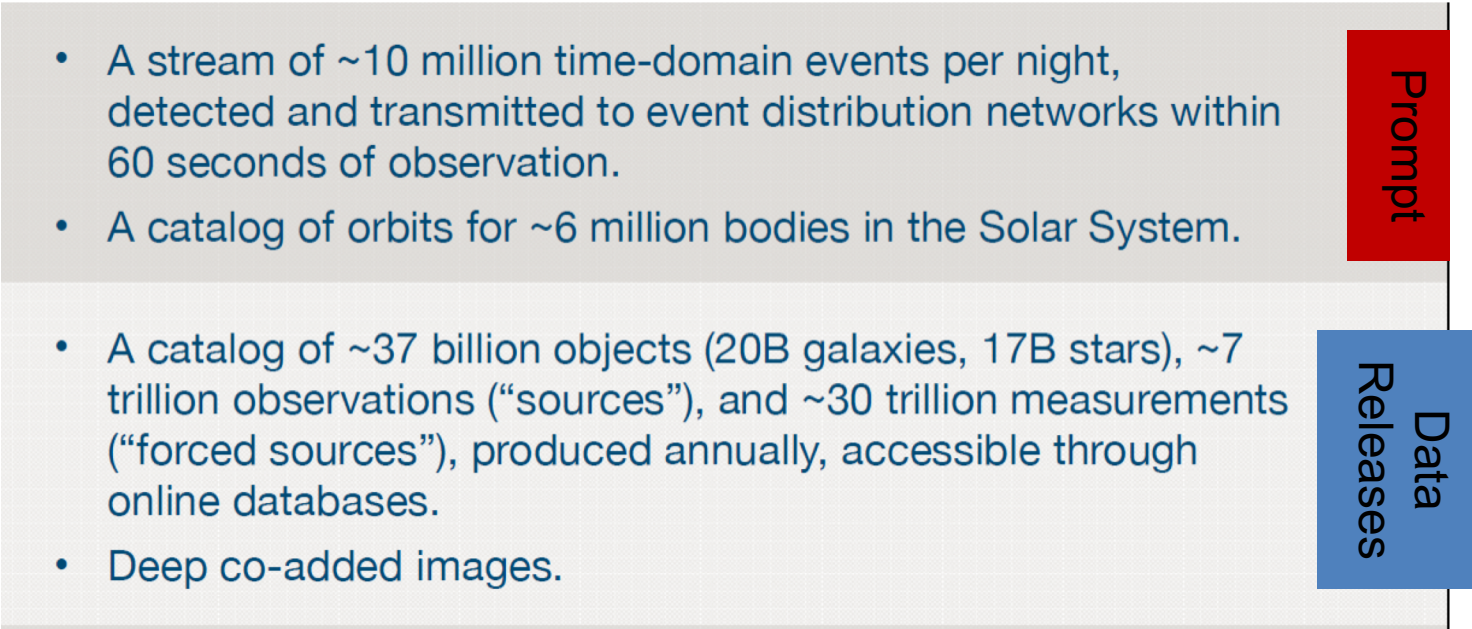
Explosive transients
Multi-messenger counterparts
Variable stars, quasars
Lensing events



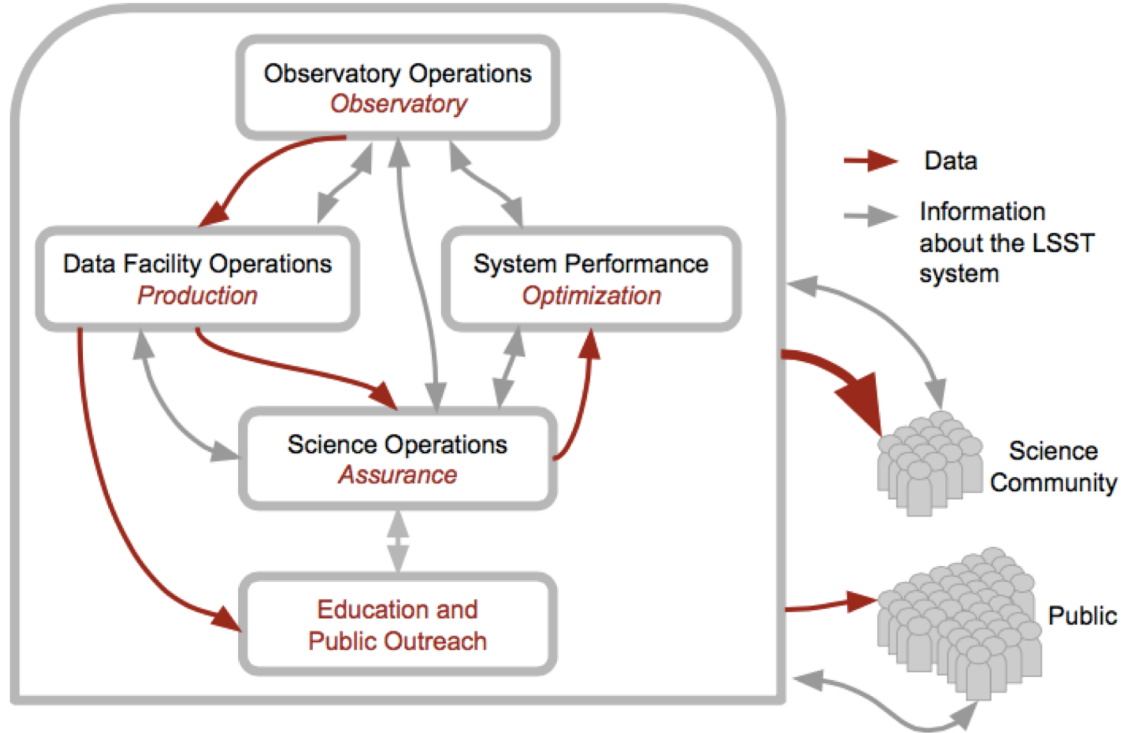
LSST will image the entire Southern sky (18k sq deg) every few nights, taking an image every ~ 40 seconds, for 10 years.

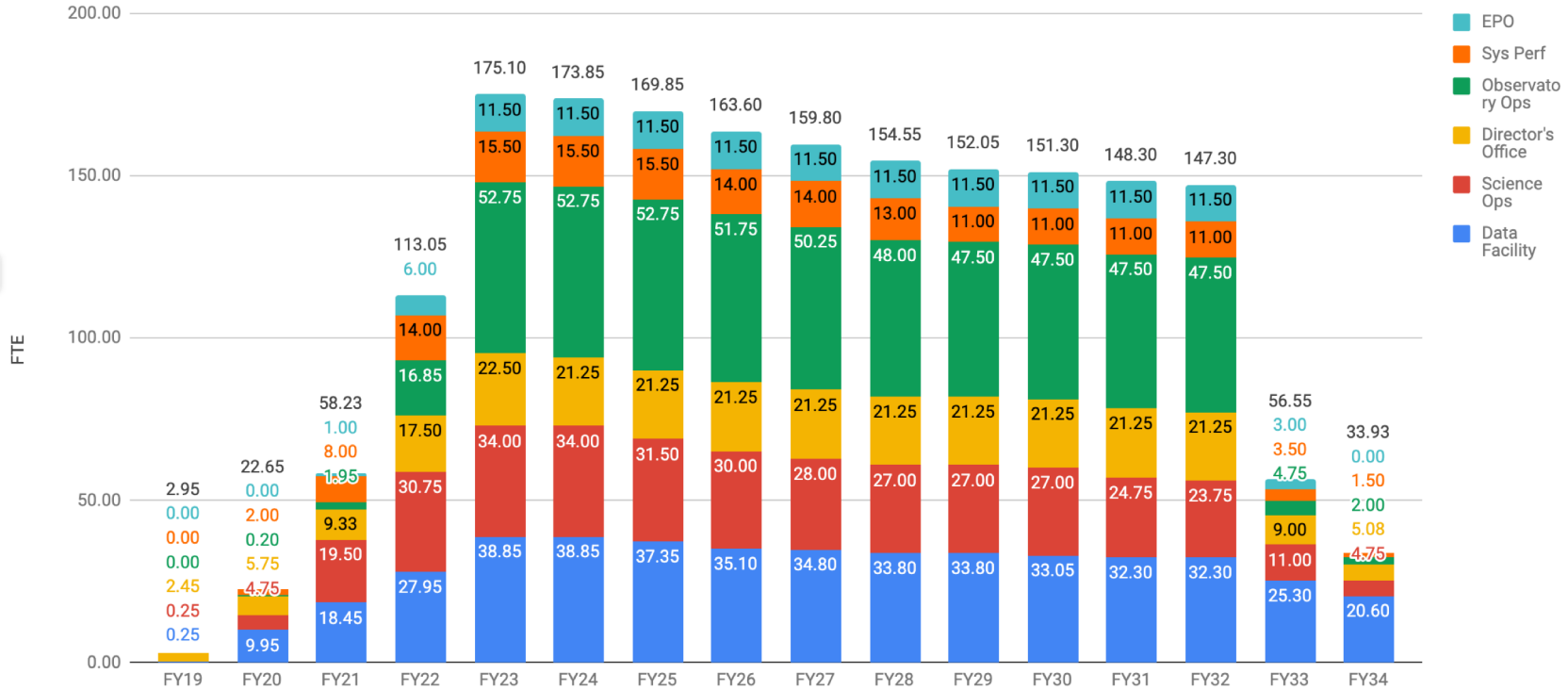
The result: *an 825-frame movie in 6-filter technicolor of every object present*





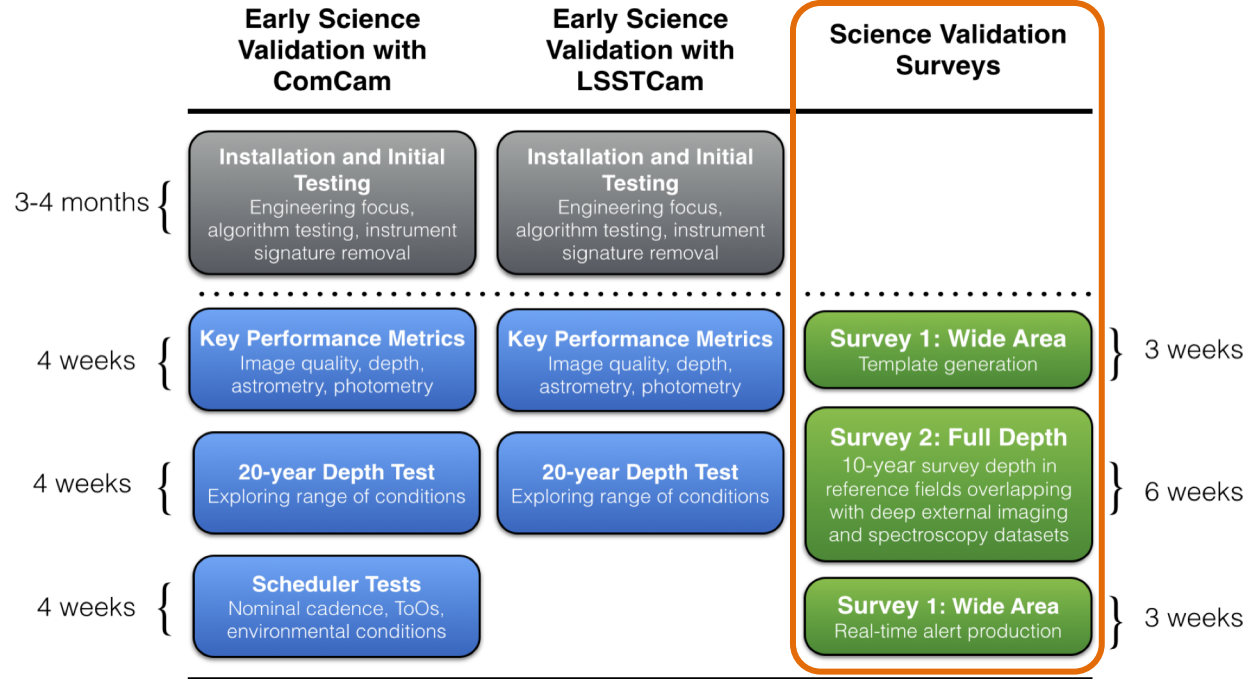
The production of data products will be transparent: All software is developed open-source and will be available to the community.





- The LSST Commissioning Team will generate data products from the observations taken in commissioning. The Commissioning team will verify, validate, and characterize these products, in order to test for the operations readiness of the system.
- The LSST Operations team plans to use the commissioning data products to develop and test its procedures for releasing, and then supporting the use of, LSST data.
- Preparing for each data release “scenario” in commissioning and science validation will take time and effort by the ops team.

- Two 6-week continuous scheduler-driven surveys exercising the prompt and data release processing science pipelines
- Comprehensive characterization of bulk data acquired under nominal observing conditions
- Identifying corner cases with the aid of a larger statistical sample



Milestone	Date
Start of On-Sky Data from Auxiliary Telescope	Oct. 2019
Start of On-Sky & Calibration Data with ComCam	Oct. 2020
Sustained Observing with ComCam	Feb. 2021
Start of On-Sky & Calibration Data with LSSTCam	July 2021
Sustained Observing with LSSTCam	Oct. 2021
Start of Science Verification mini-Surveys	Dec. 2021
Operations Readiness Review	March 2022

- Scenario is a possible data release schedule or timeline
- Current plans include 3 scenarios for pre-operations (ComCam, LSSTCam, SV mini-Surveys)
- Release may start at flat files, will evolve to fully supported Data Access Center with LSP (LDM-554)
- Plan to release data through LSP ASAP to gain operational experience and user feedback
- Scenario 1, first image data released with 6 months following ComCam data complete. Catalogs 3 months later
- Scenario 2, 3 full data preview released 6 months after data taking complete. (See S16)

- ComCam Q2 2022
 - Data taking ends June 2021
 - Start releasing data (images) Dec 2021
 - Full data release Mar 2022
- LSSTCam Q3 2022
 - Data taking ends Dec 2021
 - Full data release June 2022
- SV mini-Surveys Q4 2022
 - 1-3 surveys
 - Data taking ends Mar 2022
 - Deliver first MS six months after finished (Sep 2022)

End of presentation

