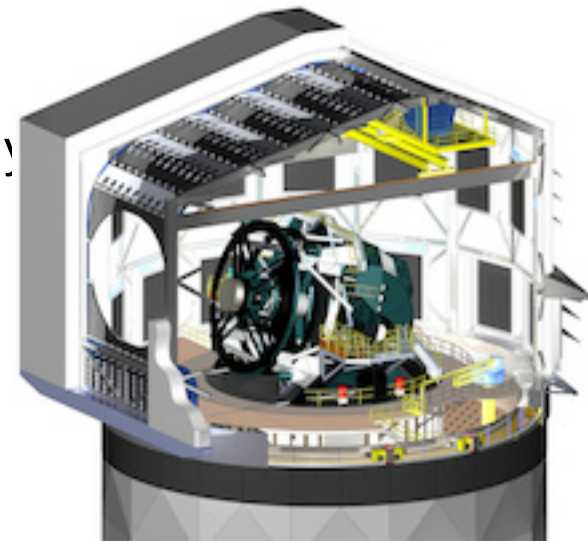
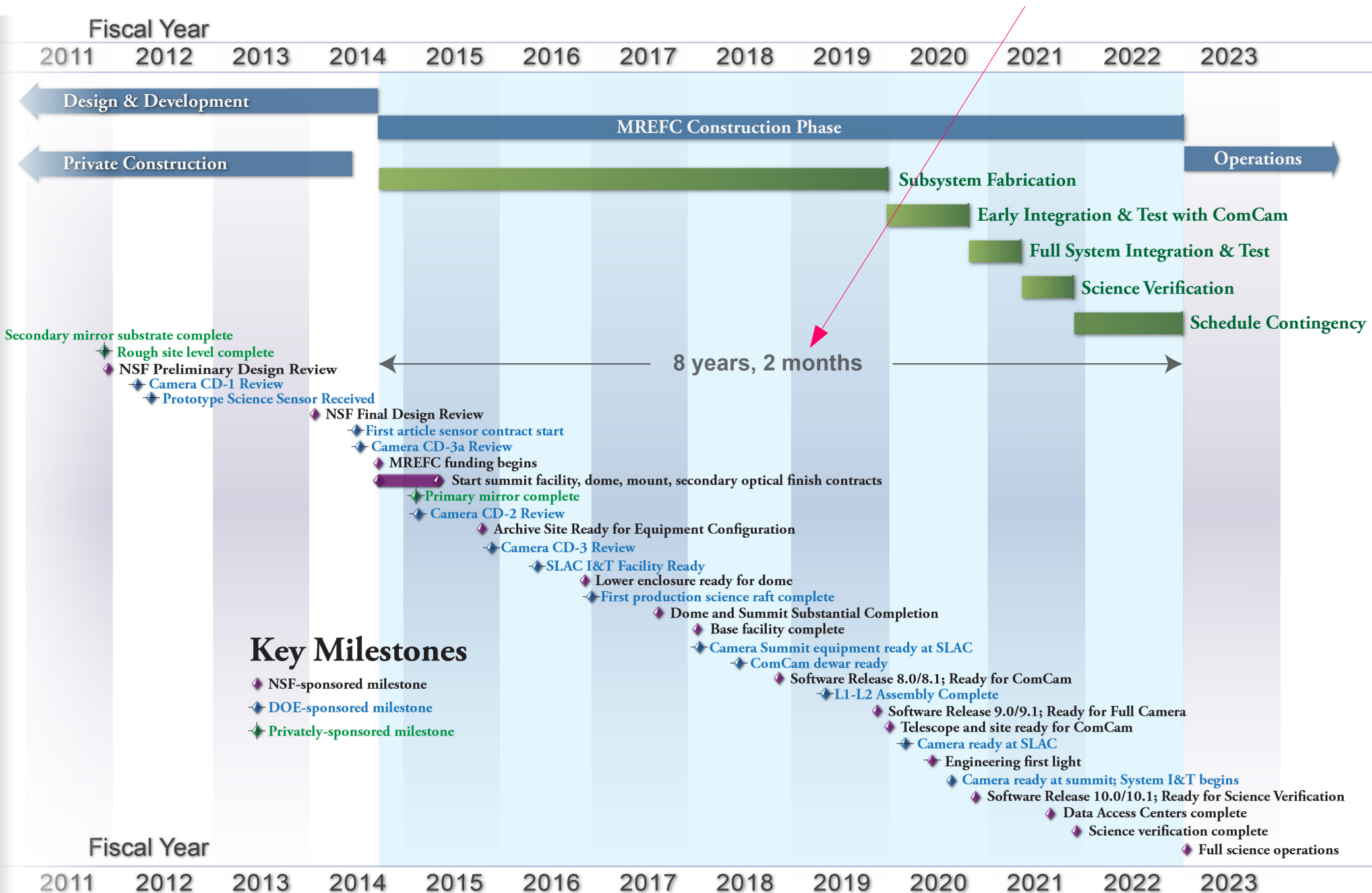


# Large Synoptic Survey Telescope (LSST)

- One of the (supposedly) most important astronomical projects for the next decade – worth being in
- Place: Chile, financed (mostly) by US
- Optical photometric all sky survey in 6 bands (ugriz) with unprecedented capabilities when it comes to
  - Depth
  - Width
  - Time variability (“one SDSS per night”)
- Mirror 8.2 m; camera 3200 megapixel; 15-30 TB of data per day; 200 PB of data after 10 years
- 37 bln sources
- 10 years of observations (planned to be extended until 12 y)
- First light in 2020, fully operational from 2023

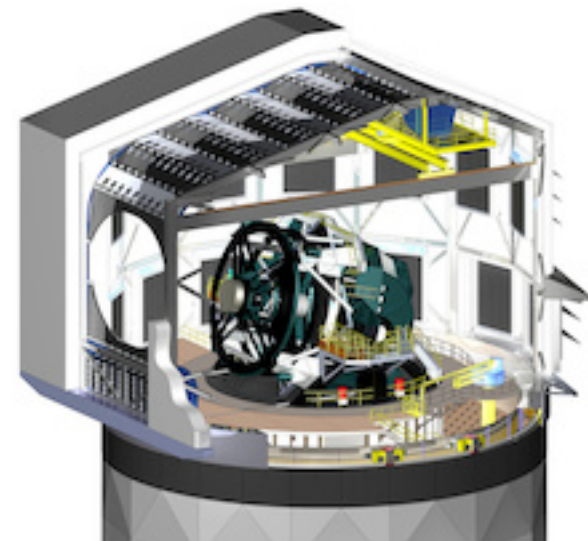


# Time scale



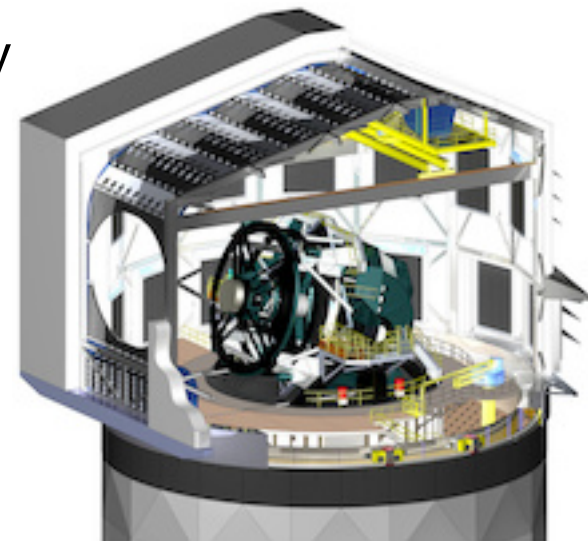
# Large Synoptic Survey Telescope (LSST) – Polish consortium

- Discussions started in 2011 (Letter of Intent), Memorandum of Agreement signed in 2017; grant from Polish MNiSW to cover Polish fee acquired in Dec 2018
- Polish consortium is represented by NCBJ, presently 6 institutional members: NCBJ, UJ, UW, UMK, CAMK PAN, CFT PAN; each institution has a representative in a consortium council
- General rule in the MoA: the “unit” is a team composed by a PI + 4 “junior researchers” (post-doc and students, up to 3 post-docs)
- Present Polish MoA: 4 PIs with their teams, 20 researchers in total
- MoA guarantees: the right of direct use of the data in the proprietary period (2 years), data access, the right to enter Science Collaborations active in the LSST (still possible to act independently or to create our own groups)



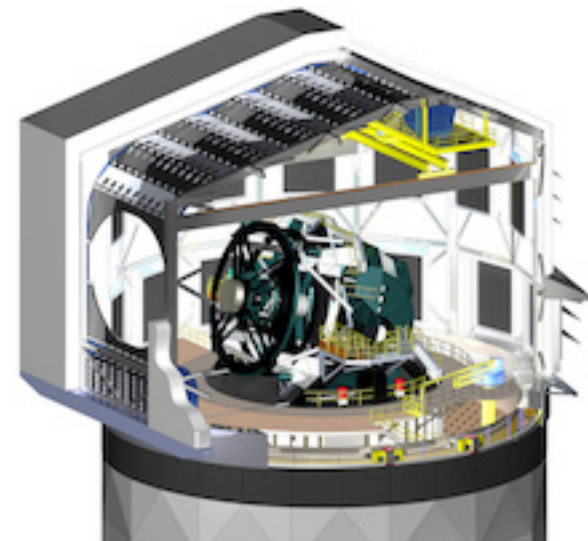
# Large Synoptic Survey Telescope (LSST) – Polish consortium

- Present PIs:
  - Agnieszka Pollo (NCBJ/UJ)
  - Bożena Czerny (CFT PAN)
  - Lukasz Wyrzykowski (CAMK PAN)
  - Boud Roukema (UMK)
  - (CAMK represented by Maciej Konacki, temporarily out of the PI list)
- A number of potential (near) future PIs among present co-Is
- The present structure of the consortium does not correspond to the division into 5-person groups and this was intentional – we want to remain maximally flexible in order to be maximally to produce science
- Future:
  - Possible changes in the LSST data rights/access strategy
  - More PIs? But after we demonstrate that we can make an effective use of 20 slots we already have



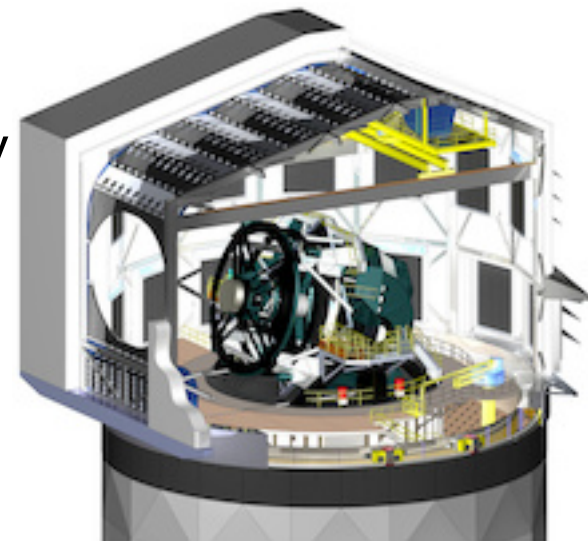
# Large Synoptic Survey Telescope (LSST) – for a larger community in Poland

- “data rights” vs “data access”
- Proprietary period and data access after proprietary period
- should be built a local Polish DAC? Collaborate with European partners?
- Authorship policy



# Large Synoptic Survey Telescope (LSST) – costs

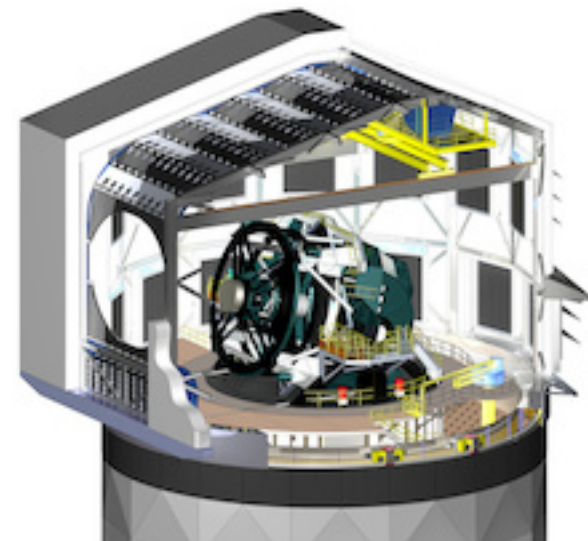
- \$20,000/year for “data rights” per PI + team, for 10 lat, changes possible
- \$1500 /year for “data access” per PI+ team, for 10 lat, changes possible
- Grant from MNiSW, conditions:
  - Satisfactory report for 2019 (remember about acknowledgments!)
  - Containing a thorough description of plans and strategy of ALL Pis in the Polish consortium (not only two...)





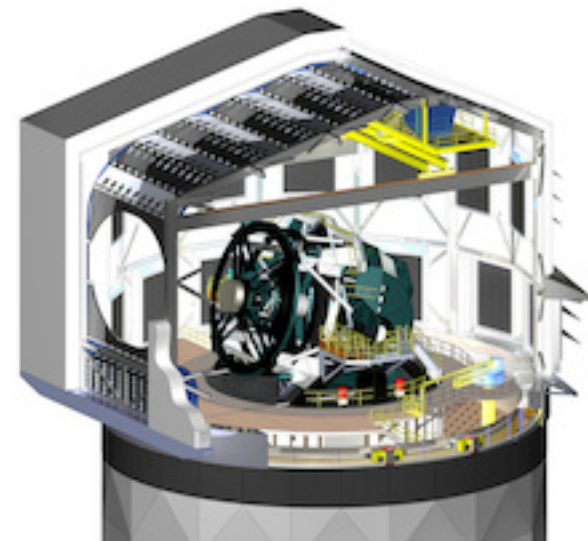
# Large Synoptic Survey Telescope (LSST) – plans of the Polish consortium

- Define two (at least) groups:
  - Present affiliates (those who need an immediate access to the data or to the LSST Science Collaborations)
  - Future/potential affiliates (those who do not need to enter the lists now but will need it in the - -preferably well defined - future)
  - Collaborators (those who do not need to be on the lists but are willing to collaborate
    - e.g. theorists, representatives of projects providing the data being in synergy with the LSST etc.)



# Large Synoptic Survey Telescope (LSST) – plans of the Polish consortium

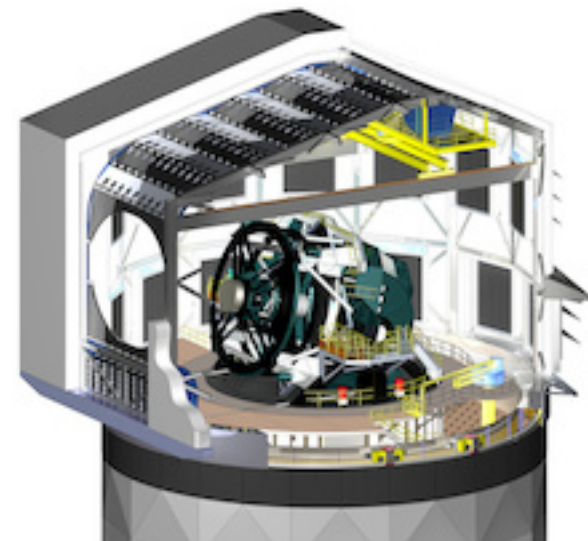
- Define subjects and areas of interests and lists of people working in these areas; make clear work plans for the nearest year and more
- Plans for Polish consortium meetings and workshops
- International conferences and workshops (e.g. meetings of the Science Collaborations or working groups)
- Data products we can produce and provide (in collaboration with LSST Wcs or independently):
  - Simulations/mocks?
  - Photo-sz?
  - Galaxy properties?
  - Classification products?
- Web page
- DAC/iDAC?
- Define additional needs of the consortium
- Common grant applications? What else?





# Large Synoptic Survey Telescope (LSST) – plans of the Polish consortium

- Define subjects and areas of interests and lists of people working in these areas; make clear work plans for the nearest year and more
  - Solar System studies (MD)
  - Galactic Science
    - Microlensing and galactic BHs (LW)
    - Search for DM (WH)
    - Variable stars, exoplanets (MR)
  - Extragalactic Science
    - Galaxies (KM, AP, MB +)
    - AGNs (BCz, MB, LW, AP +)
    - Cosmology (Bcz, BR, AP, MB. WH +)
  - ML for different purposes



# Large Synoptic Survey Telescope (LSST) – Science Collaborations under LSST

- Galaxies
- Stars, Milky Way and Local Volume
- Solar System
- Dark Energy
- AGN
- Transients/variable stars
- Strong Lensing
- Informatics and Statistics  
(each group with different acceptance rules and publication po
- 3 National Groups: Chile, UK, France

