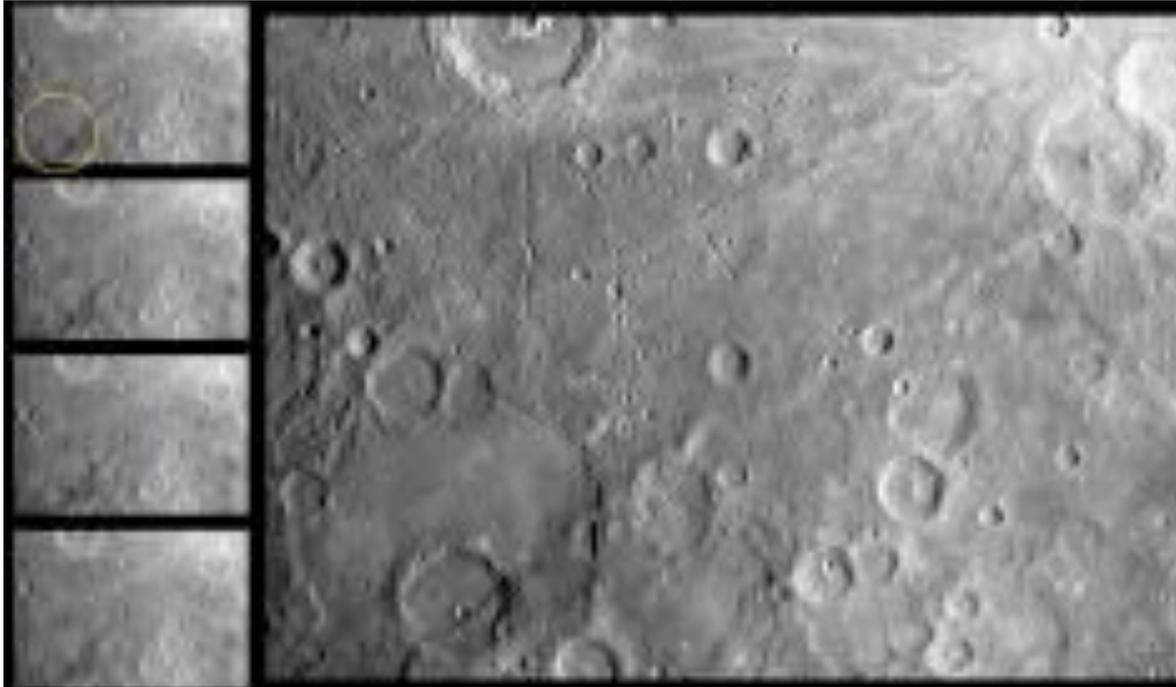


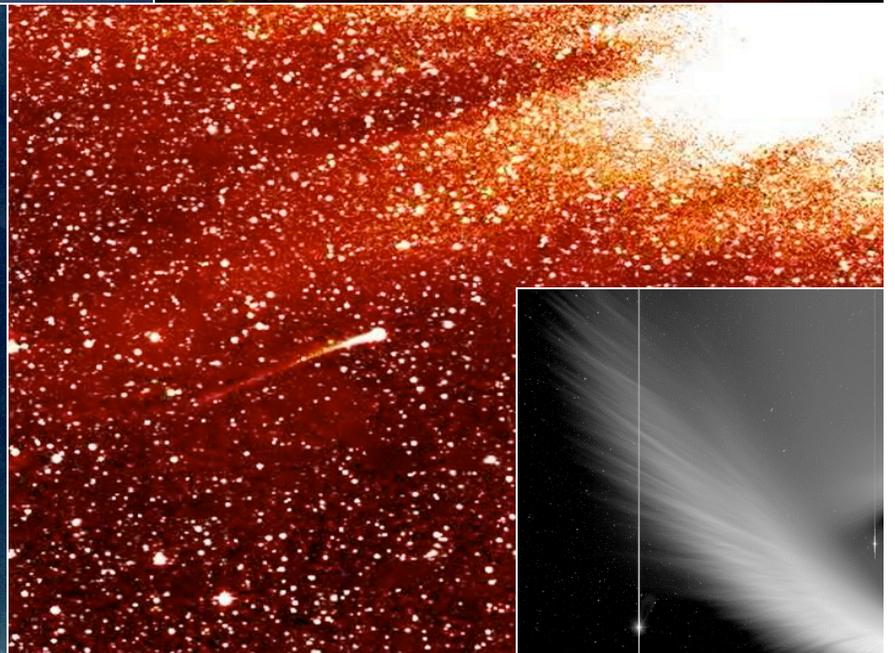
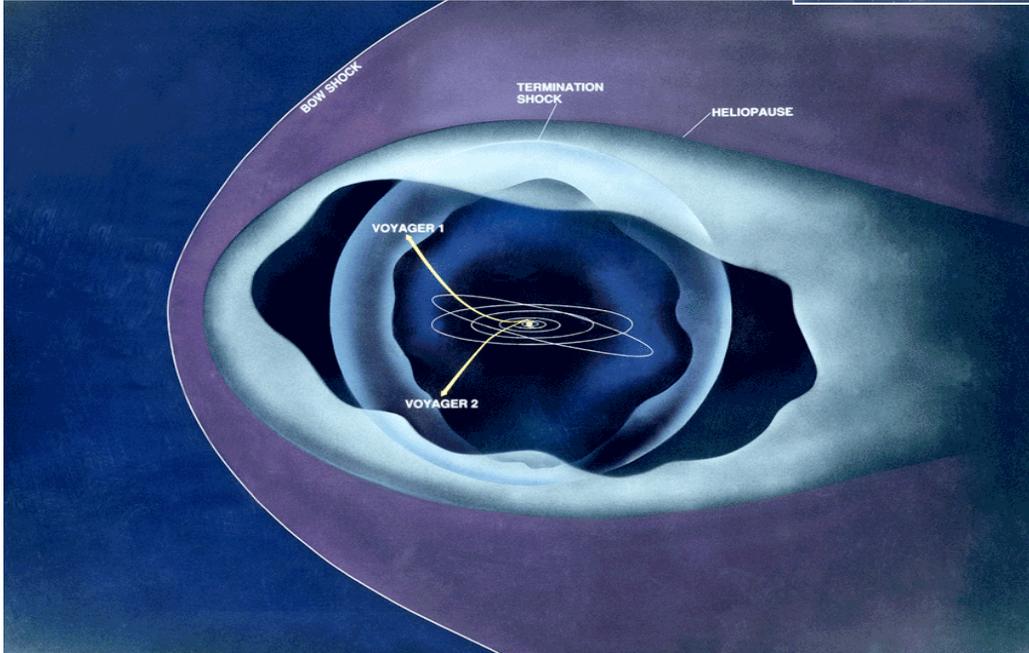


3RD SPACE EXPLORATION CONFERENCE & EXHIBIT

Science Mission Directorate Update

Todd May
Deputy Associate Administrator, Science
NASA HQ
February 26, 2008





2009 Cross-Cutting Budget Objectives/Results



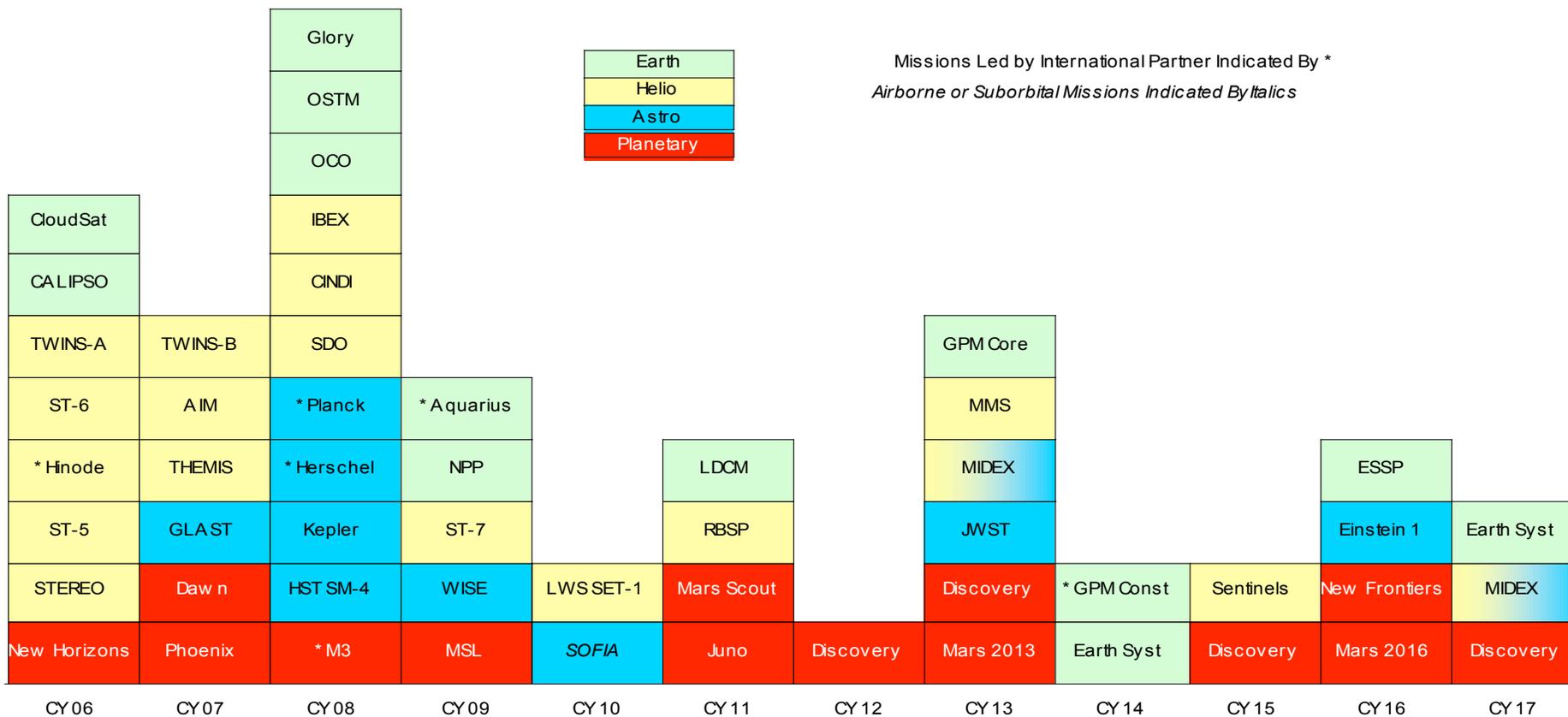
Objectives:

- Focus a larger fraction of resources on Earth Science
- Initiate an SMD lunar robotic science program
- Increase space science R&A/MO&DA to get better value from our flight missions
- Increase space science suborbital research programs to foster PI on-ramps, technology demonstration, and accomplish more science
- Accelerate the execution of mission queues in all four of SMD's science theme areas
- Support NRC Decadal Survey priorities

Results:

- \$570M increase in Earth Sci
- Six new mission starts over all four divisions
 - **Astro:** JDEM
 - **Earth:** SMAP, ICESAT II
 - **Helio:** Solar Probe +
 - **Planetary:** OPF, lunar
- Increases in R&A, MO&DA, and suborbital programs

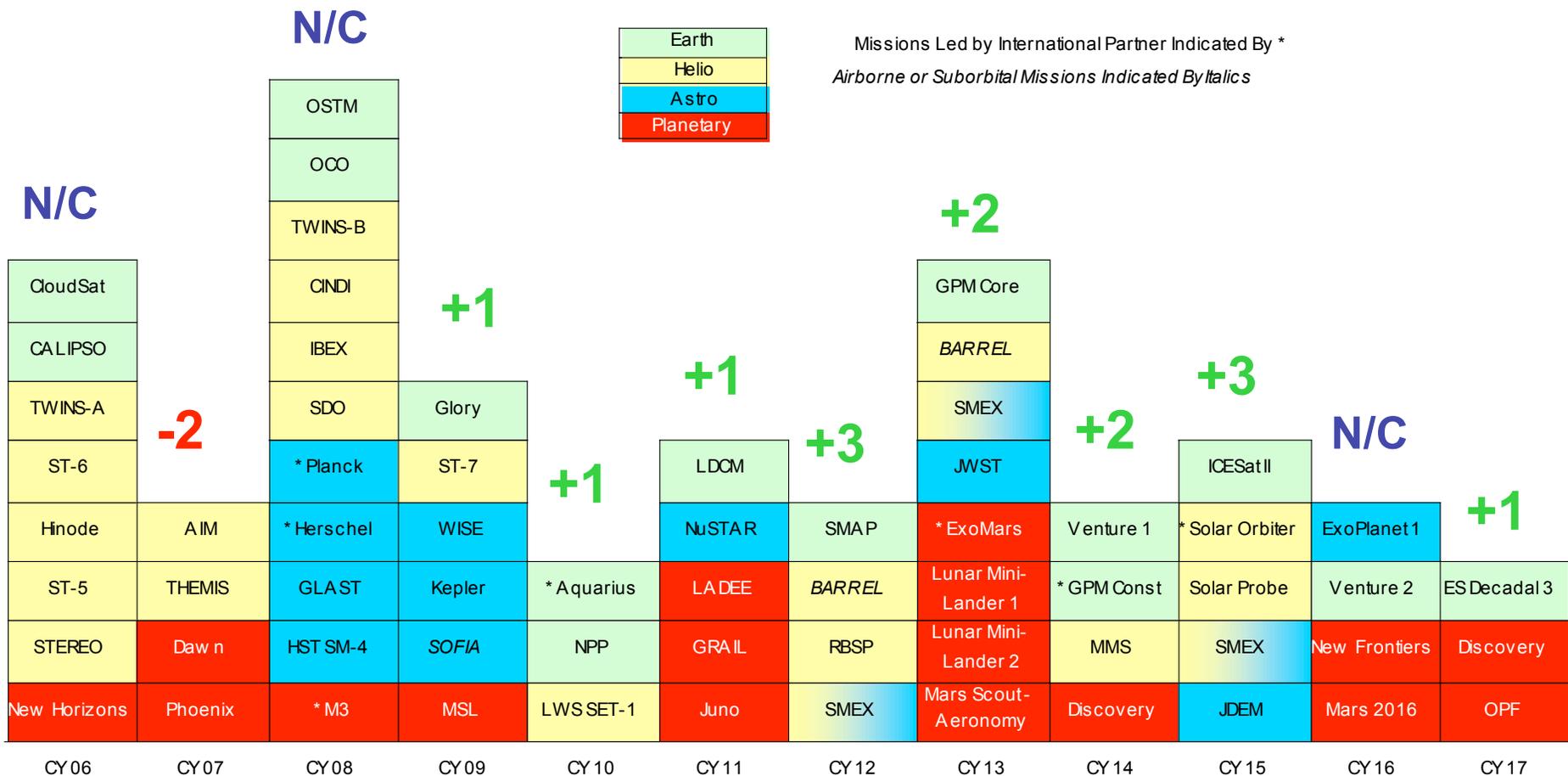
SMD'S Flight Program: Feb 2007



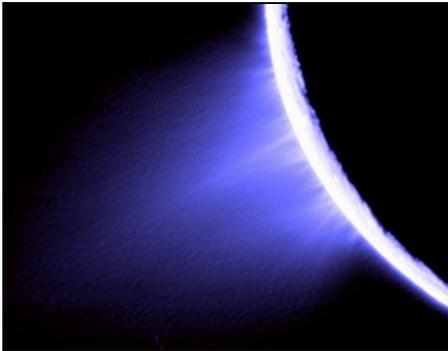


SMD'S Flight Program: Feb 2008

Net increase of 12 missions launched



On the Horizon



Mar 12 Cassini Enceladus Flyby – 50km!

April James Webb Space Telescope
Preliminary Design Review

May 15 Launch Gamma-ray Large Area Space Telescope

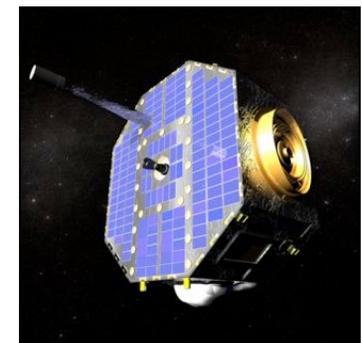
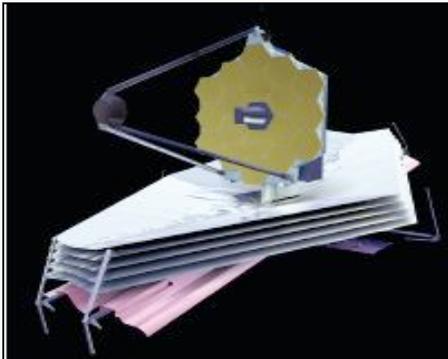
May 25 Phoenix Mars Landing

Jun 15 Launch Ocean Surface Topography Mission (OSTM)

June Juno Preliminary Design Review

Jul 15 Launch Interstellar Boundary Explorer (IBEX)

Aug Hubble Space Telescope Repair Mission #4



Astrophysics Hardware in Development



GLAST @ GD



Kepler @ Ball

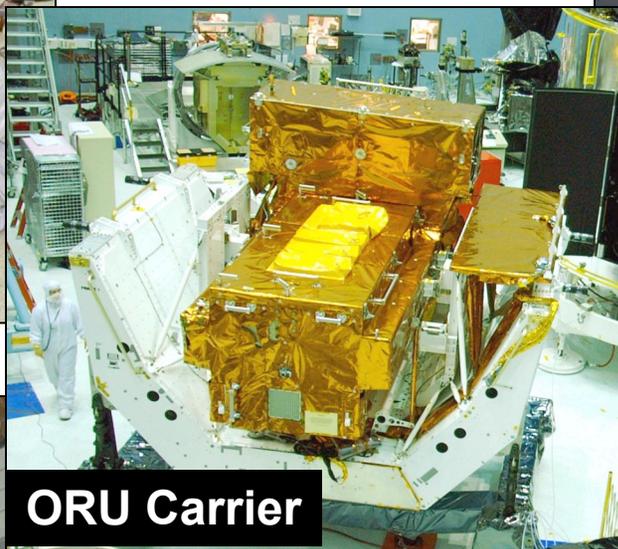




Astrophysics – Hubble Servicing Mission



Wide Field Camera 3



ORU Carrier



Super Lightweight Interchangeable Carrier



Fine Guidance Sensor (FGS)



Cosmic Origins Spectrograph (COS)

Heliophysics Hardware in Development



Solar Dynamics Observatory @ GSFC



IBEX Spacecraft



Earth Science Hardware in Development



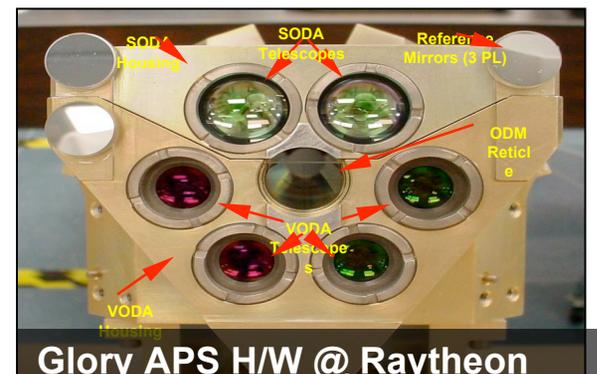
OCO @ Orbital



Glory Bus @ Orbital

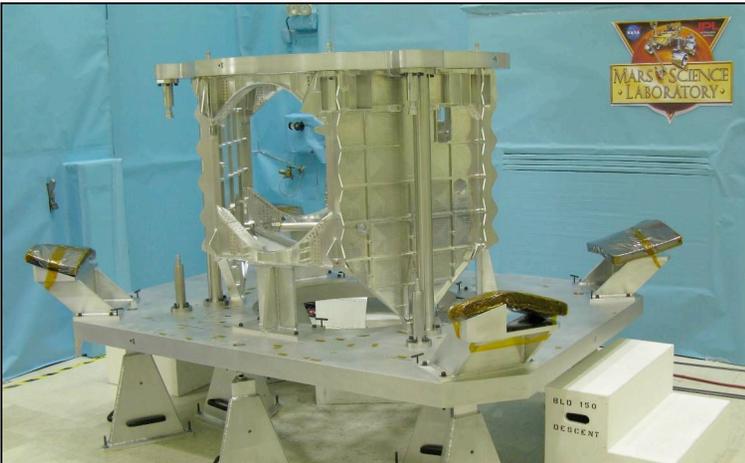


NPP Bus @ Ball



Glory APS H/W @ Raytheon

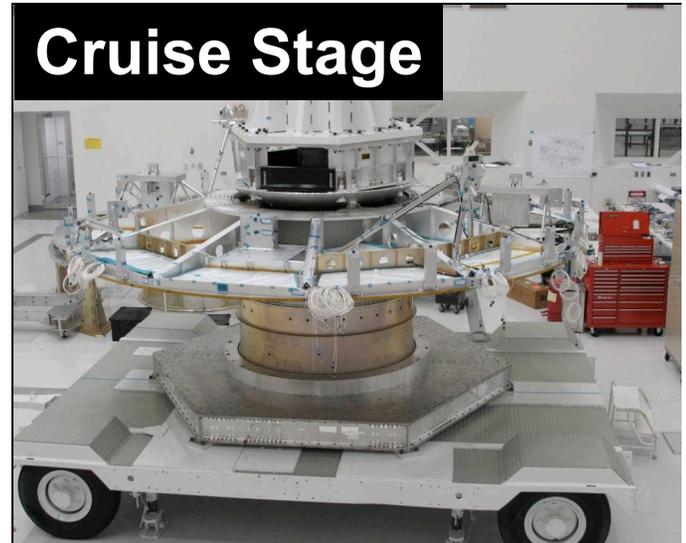
Planetary Hardware in Development Mars Science Laboratory - JPL



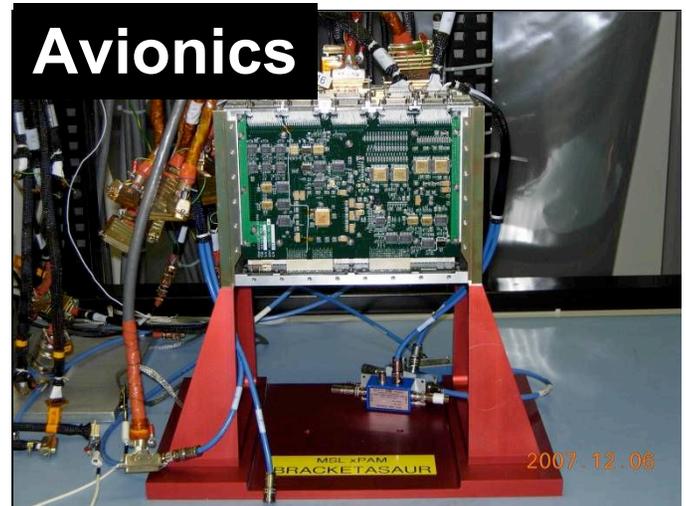
Descent Stage



Drill

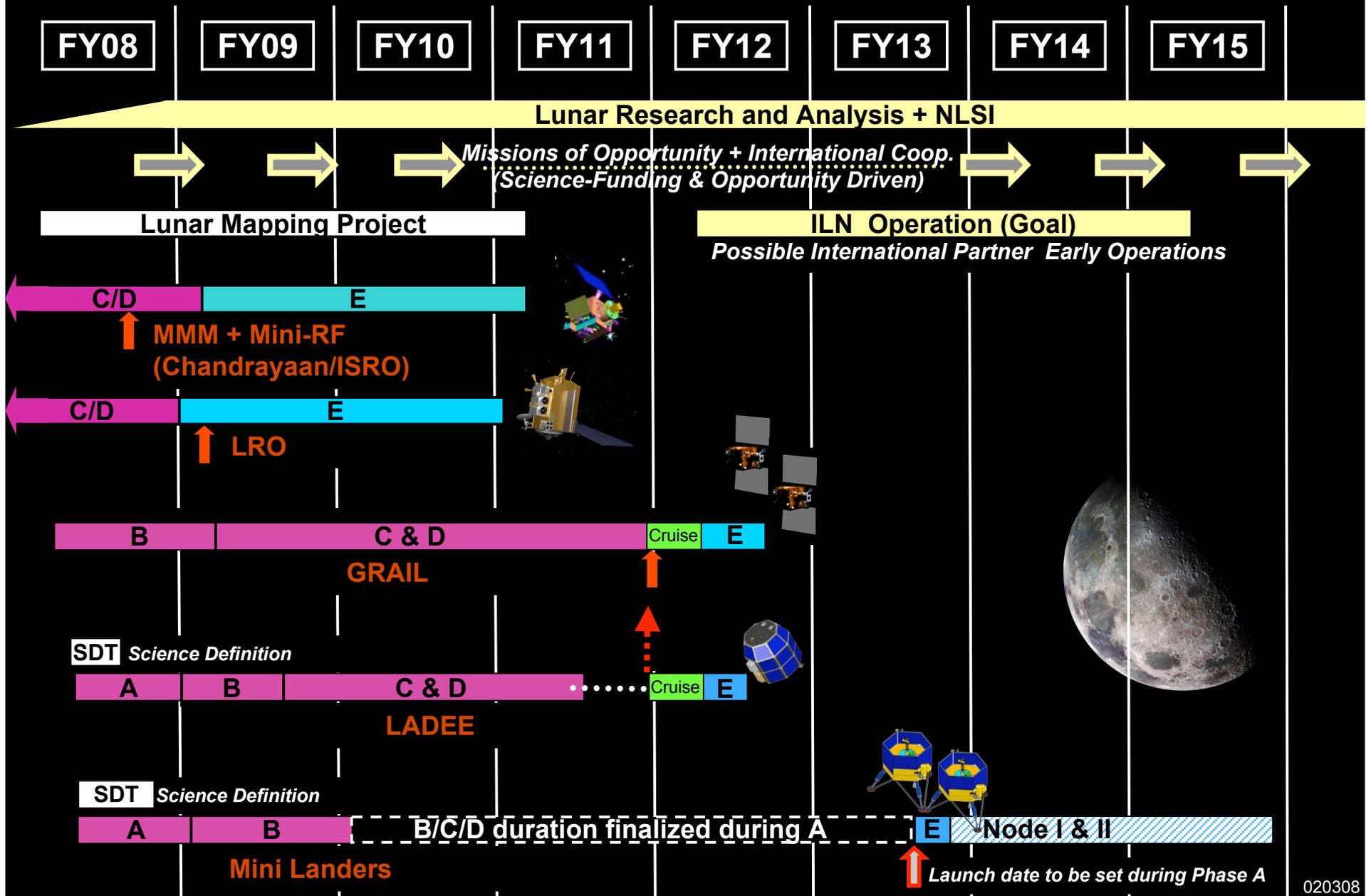


Cruise Stage



Avionics

Lunar Missions



Challenges



- **Mars Science Laboratory technical hurdles and cost growth**
- **Ensuring appropriate James Webb Space Telescope reserves**
- **Crowded launch manifest next 18 months**
- **Medium Class launch vehicles post 2010**
- **Affordable access to space**



Concluding Remarks



- The last twelve months have provided extraordinary scientific successes
- We've got a full plate, preparing for a record 10 launches in 12 months
- We're working hard to create new opportunities for the scientific community
- An explicit goal of supporting and enabling human exploration
- Cutting edge exploration brings many challenges – and we're facing each

