

“Flyby, Orbit, Land, Rove, and Return Samples”

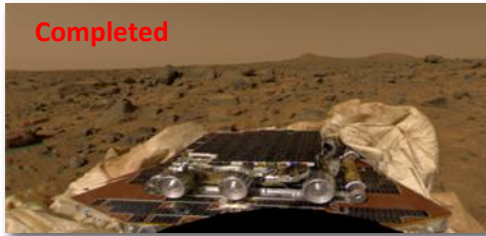
NASA's Planetary Science

Advance scientific knowledge of the origin and history of the solar system, the potential for life elsewhere, and the hazards and resources present as humans explore space



Discovery Program

Mars evolution:
Mars Pathfinder (1996-1997)



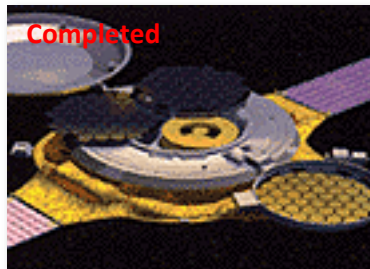
Lunar formation:
Lunar Prospector (1998-1999)



NEO characteristics:
NEAR (1996-1999)



Solar wind sampling:
Genesis (2001-2004)



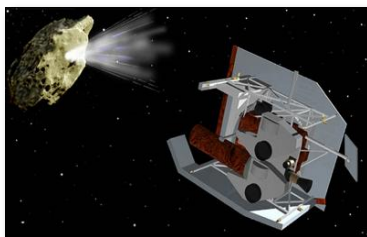
Comet diversity:
CONTOUR



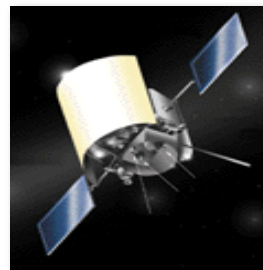
Nature of dust/coma:
Stardust(1999-2006)



Comet internal structure:
Deep Impact (2005-2011)



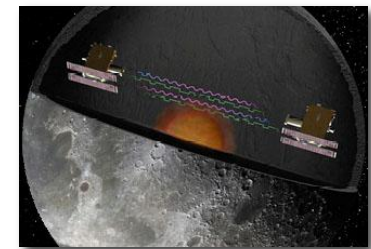
Mercury environment:
MESSENGER (2004-2012)



Main-belt asteroids:
Dawn (2007-2015)



Lunar Internal Structure
GRAIL (2011-2012)



Currently Operating

New Frontiers Program

1st NF mission
New Horizons:

**Pluto-Kuiper Belt
Mission**



Launched January 2006
Arrives July 2015

2nd NF mission
JUNO:

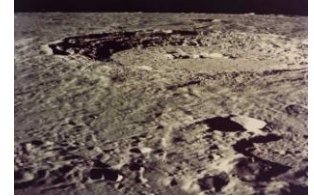
Jupiter Polar Orbiter Mission



August 2011 launch

3rd NF mission opportunity

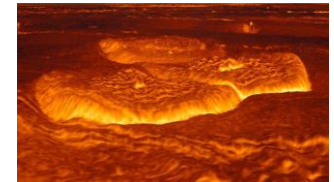
MoonRise
South Pole-Aitken Basin
Sample Return



OSIRIS-Rex
Asteroid Sample Return



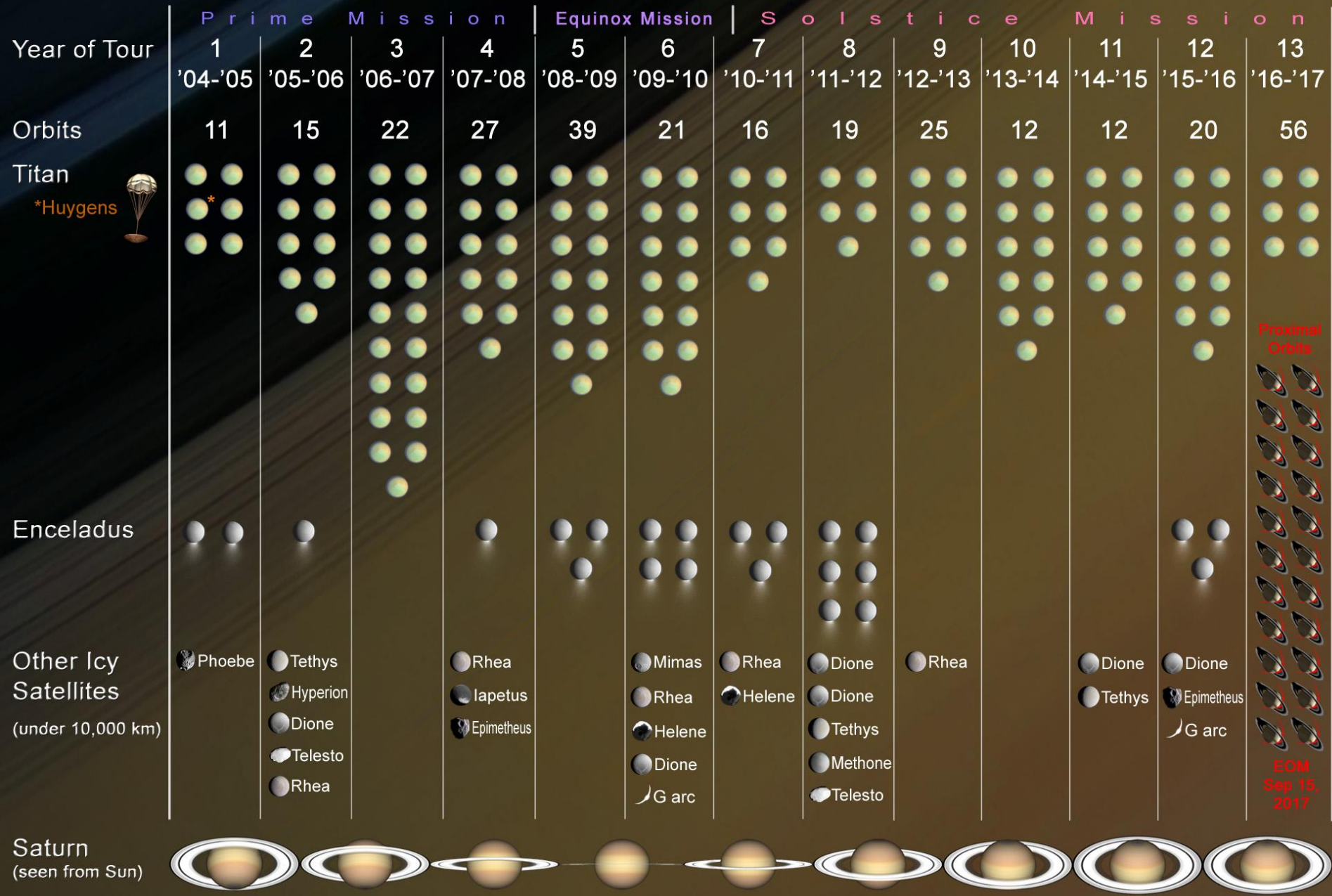
SAGE
Venus In Situ Lander



CSRs received 1/28/2011
Down Select decision Summer 2011
Launch 2016

Cassini Mission Overview

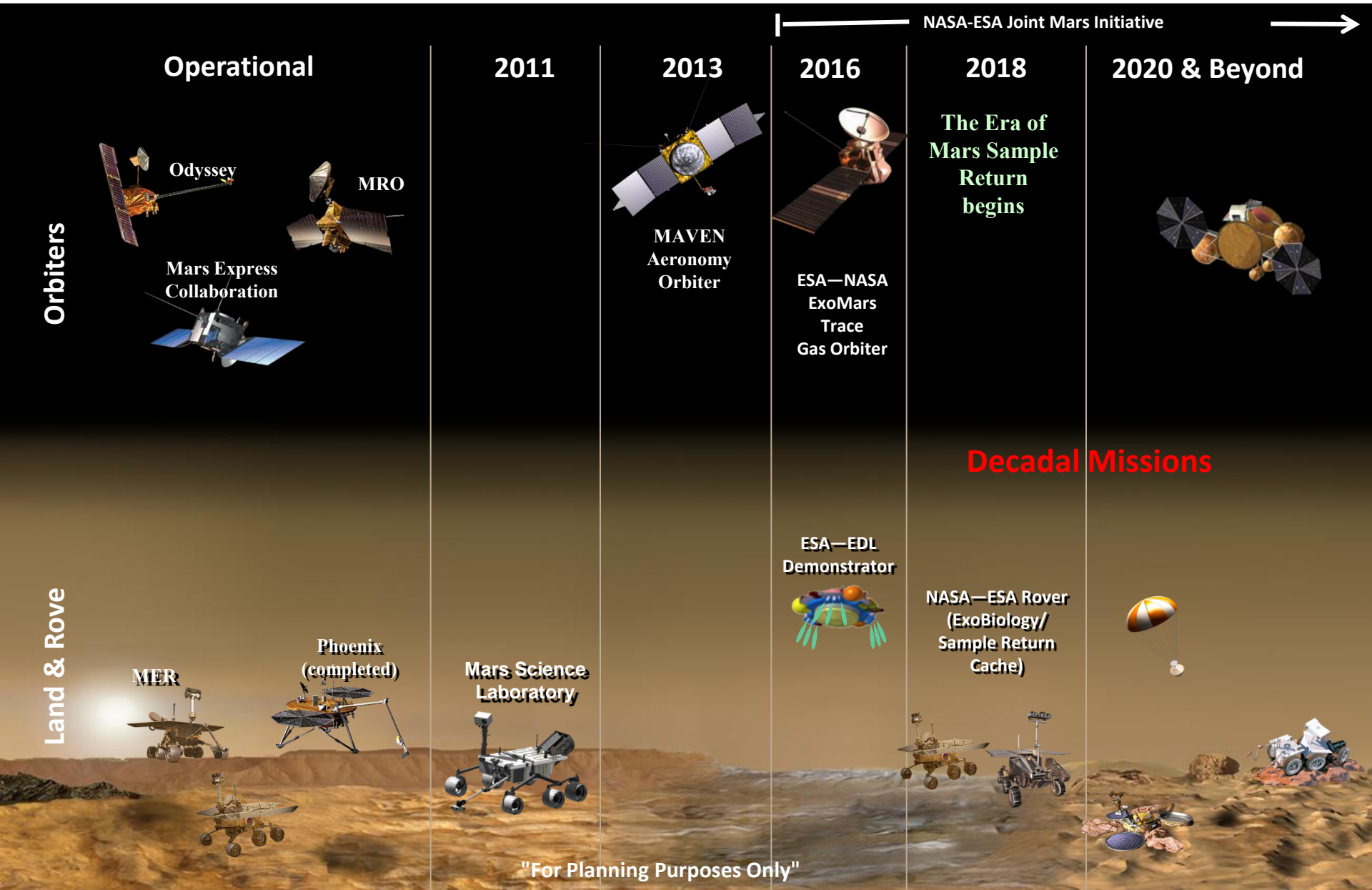
Four-Year Prime Tour, Equinox Mission, and Solstice Mission (Proposed), May 2004 - September 2017



Proximal Orbits

EOM
Sep 15,
2017

Planned Joint NASA-ESA Mars Initiative Portfolio Overview



Year of the Solar System

Planetary Science Mission Events



2010

- * September 16 – Lunar Reconnaissance Orbiter in PSD
- * November 4 - EPOXI encounters Comet Hartley 2
- * November 19 - Launch of O/OREOS
- * December 7- Venus Climate Orbiter (JAXA) arrives at Venus

* Completed

2011

- * February 14 - Stardust NExT encounters comet Tempel 1
- * March 7 – Planetary Science Decadal Survey released
- * March 17 - MESSENGER orbit insertion at Mercury (8:45 pm Eastern)

July - Dawn orbit insertion at asteroid Vesta

August 5 - Juno launch to Jupiter

September 8 - GRAIL launch to the Moon

November 25 - MSL launch to Mars

2012

Mid 2012 -- Mars Opportunity Rover gets to Endeavour Crater

Mid-year -- Dawn leaves Vesta starts on its journey to Ceres

August - MSL lands on Mars

<http://solarsystem.nasa.gov/2013decadal>

Decadal Documents and Presentations

Town Hall Schedule

Livestream of LPSC presentations