

NASA Update

ASEB/SSB Joint Session

April 4-5, 2012

Robert Lightfoot, Associate Administrator



NASA – American Innovation for the Future



**Maintaining
America's
leadership in
space and
aeronautics**



An ambitious program that takes us farther into space than ever before

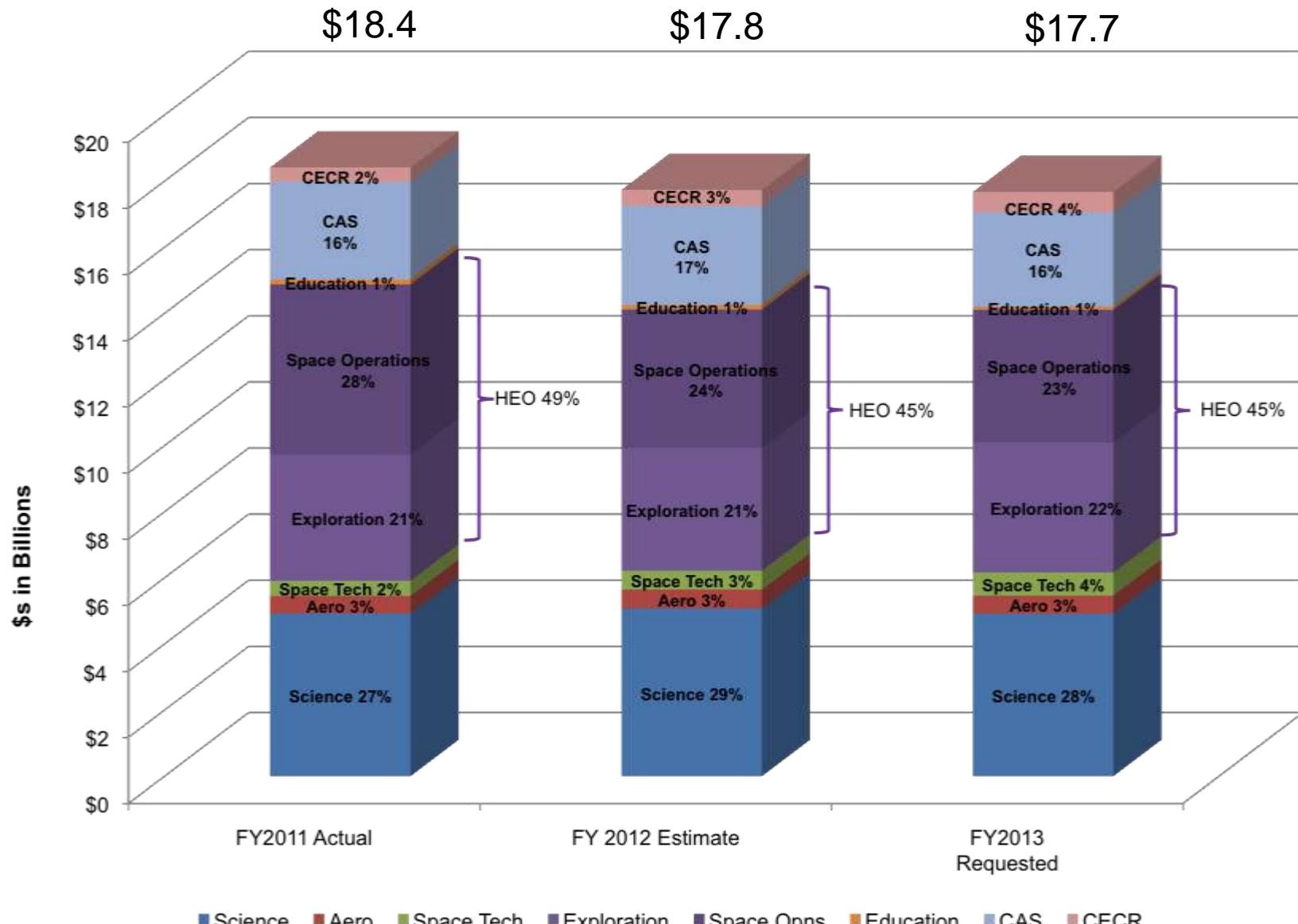


Despite tough economic times,
NASA is advancing the bipartisan
space exploration program

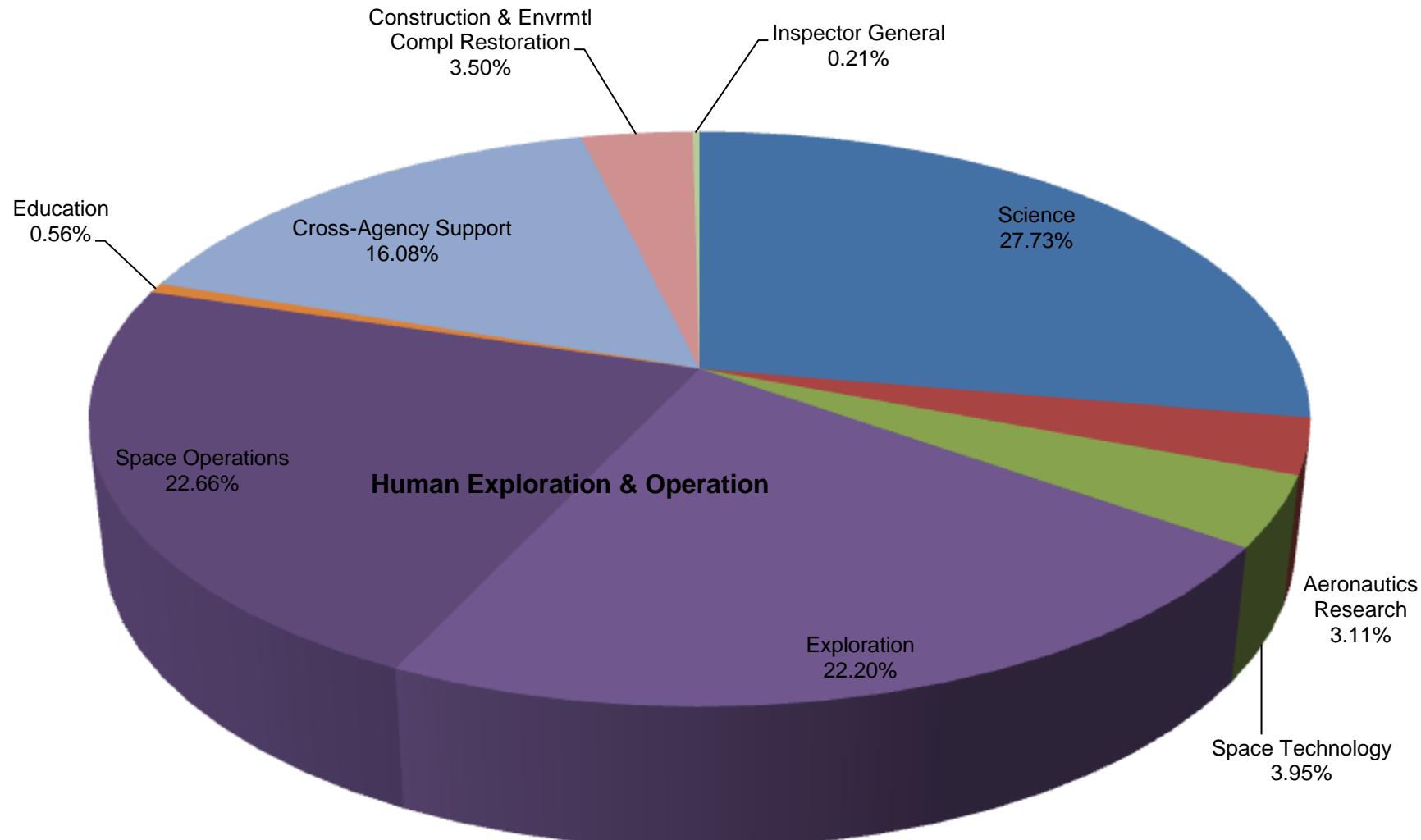


NASA is supporting technology innovation and commercial partnerships that will fuel an American Economy that's built to last

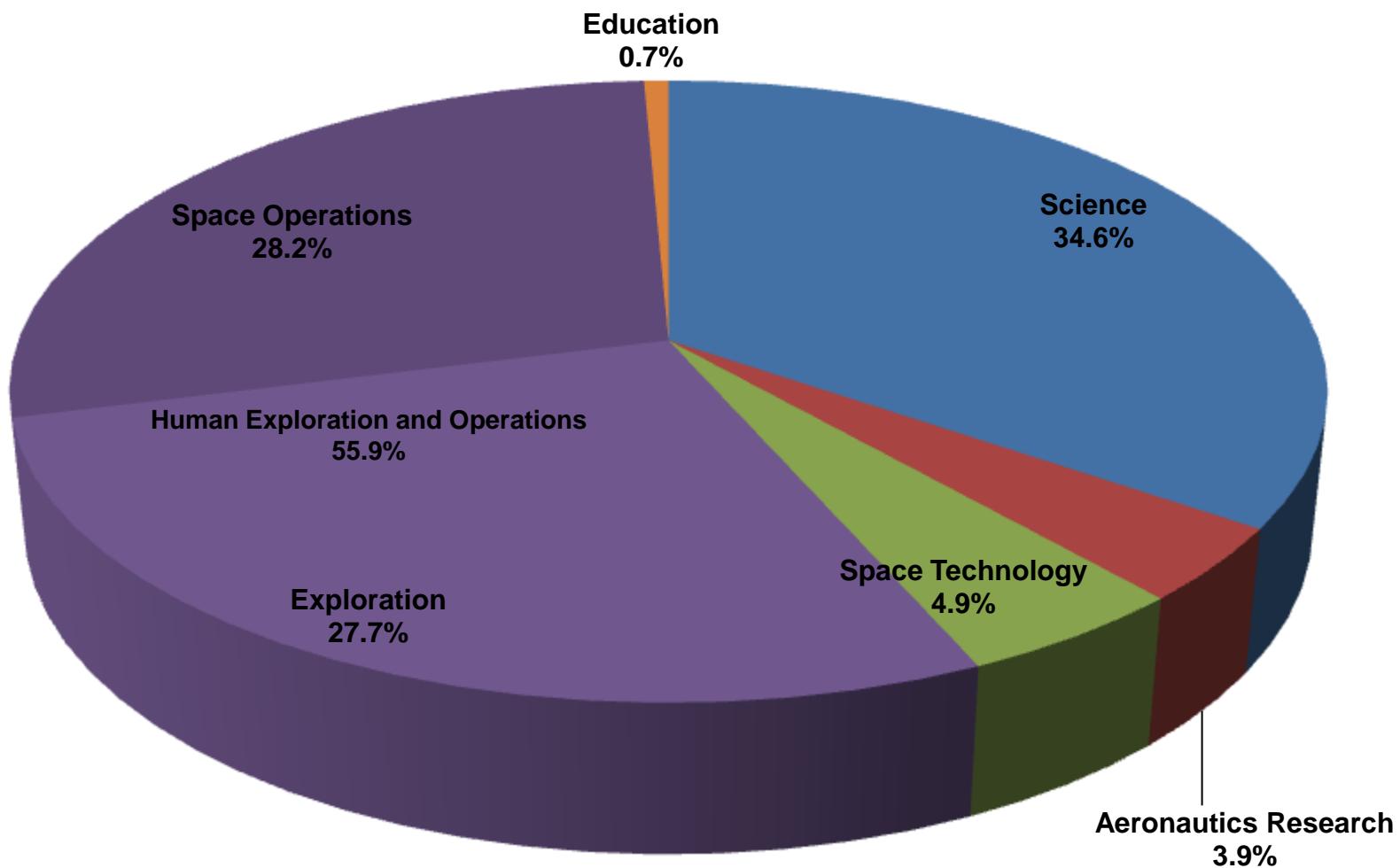
Maintaining A Balanced and Stable Top-line Budget



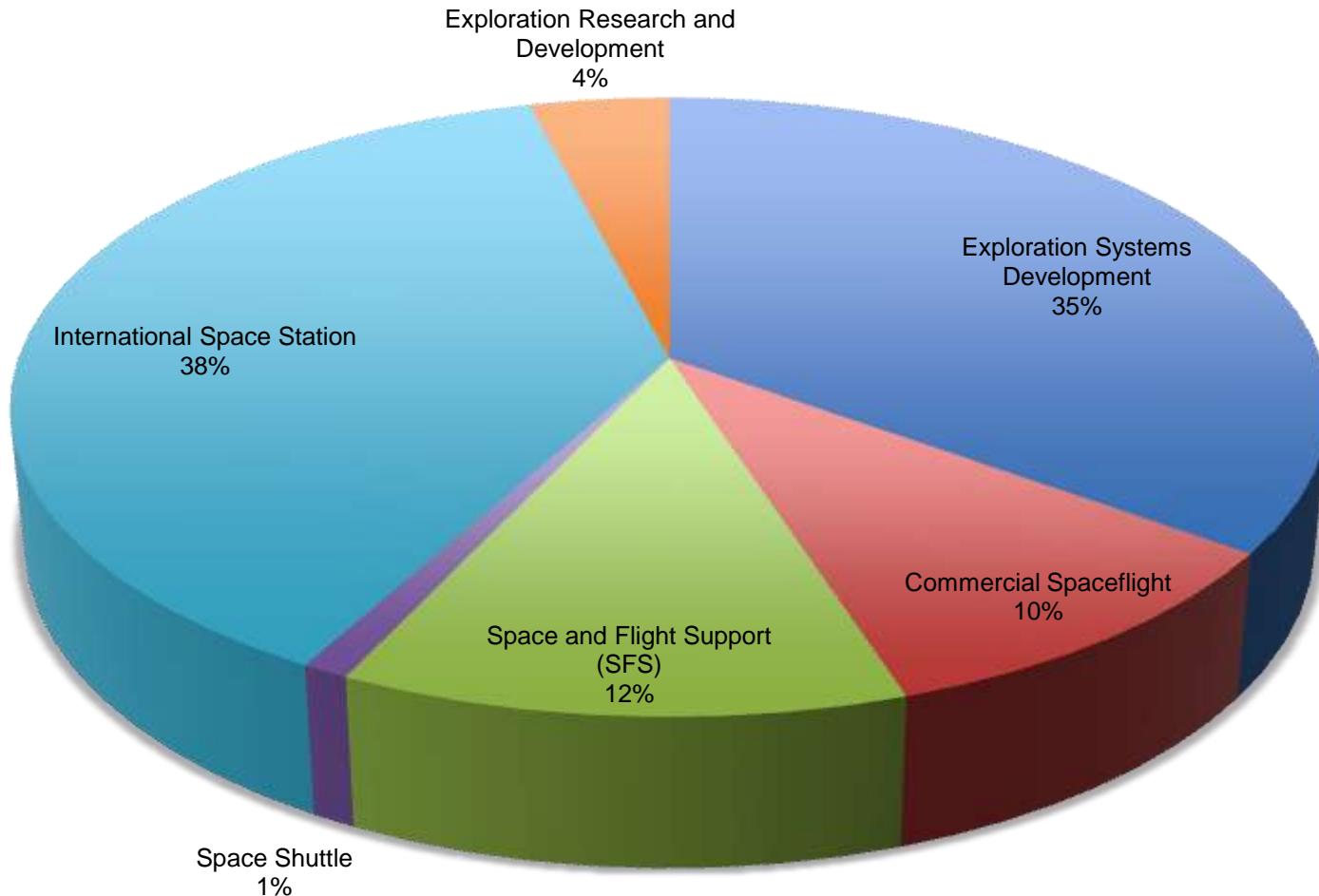
NASA Budget – FY 2013 - \$17.7 Billion



NASA Programmatic Budget



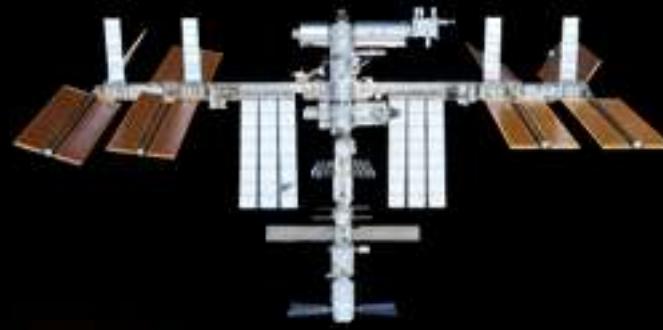
NASA Human Spaceflight - \$7.9 Billion



Human Spaceflight Accomplishments Occurring Daily



Committed to Maintaining American Excellence in Science, Technology, Engineering, Mathematics and sustaining long term human presence in space



Over 400 scientific studies were conducted on ISS over the last year



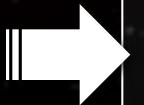
Providing important technology and innovation, not only for future long term human space missions, but to enhance life on Earth today



Making advances in microbial vaccine development, cancer treatment delivery, improved water purification technology and serving as an educational research tool to over 900,000 students nationwide



Developing capabilities to access Deep Space Destinations – Moon, Asteroid, Mars



- NASA is continuing to develop the Orion Multi-Purpose Crew Vehicle and the Space Launch System
- An Exploration Flight Test of the Multi-Purpose Crew Vehicle will take place in 2014 with a follow on integrated MPCV/SLS uncrewed flight in 2017
- A crewed flight of the integrated deep space system will occur as early as 2021



A New Aerospace Economy



Partnering with American Industry to achieve safe, reliable access to Low Earth Orbit (LEO) and ISS

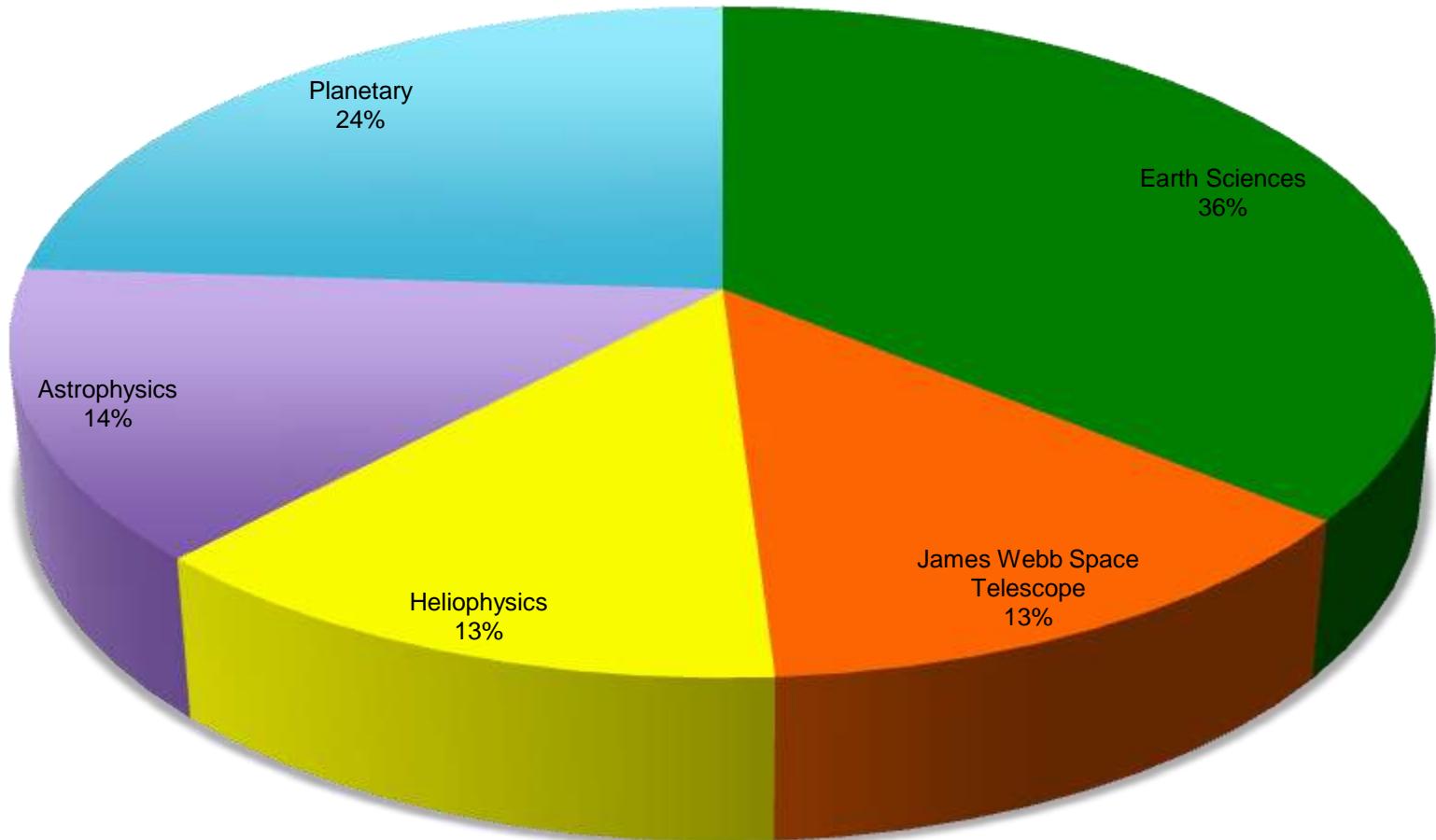


- Industry began test flights in 2010 and will continue through 2012
- In 2012 NASA will award two or more Space Act Agreements to develop human capability to travel to LEO and ISS
- This progress will culminate with human access likely by 2017



- A strong commercial space industry enables the development of a capability that will assure the Nation's future in space
- Increasing national revenue and positions American companies as competitors in the global marketplace in the space economy

NASA Science - \$4.9 Billion



Revealing the Unknown



NASA is building and operating a balanced portfolio of ground breaking science missions



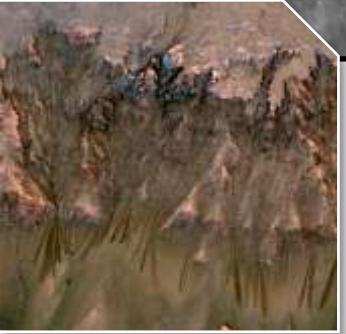
Astrophysics



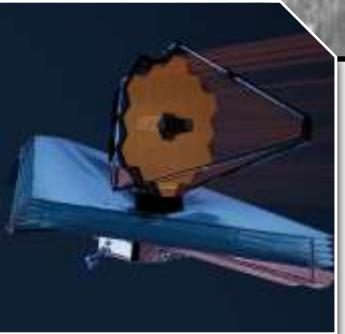
Heliophysics



Earth



Planetary



James Webb Space Telescope

Unraveling the mysteries of our universe

- Discovering Earth like planets around other stars

Understanding solar variability and the impacts of space weather

- Exploring the region where solar wind meets interstellar space

Providing critical data about our home planet

- Providing data and research to improve decision making in response to global change

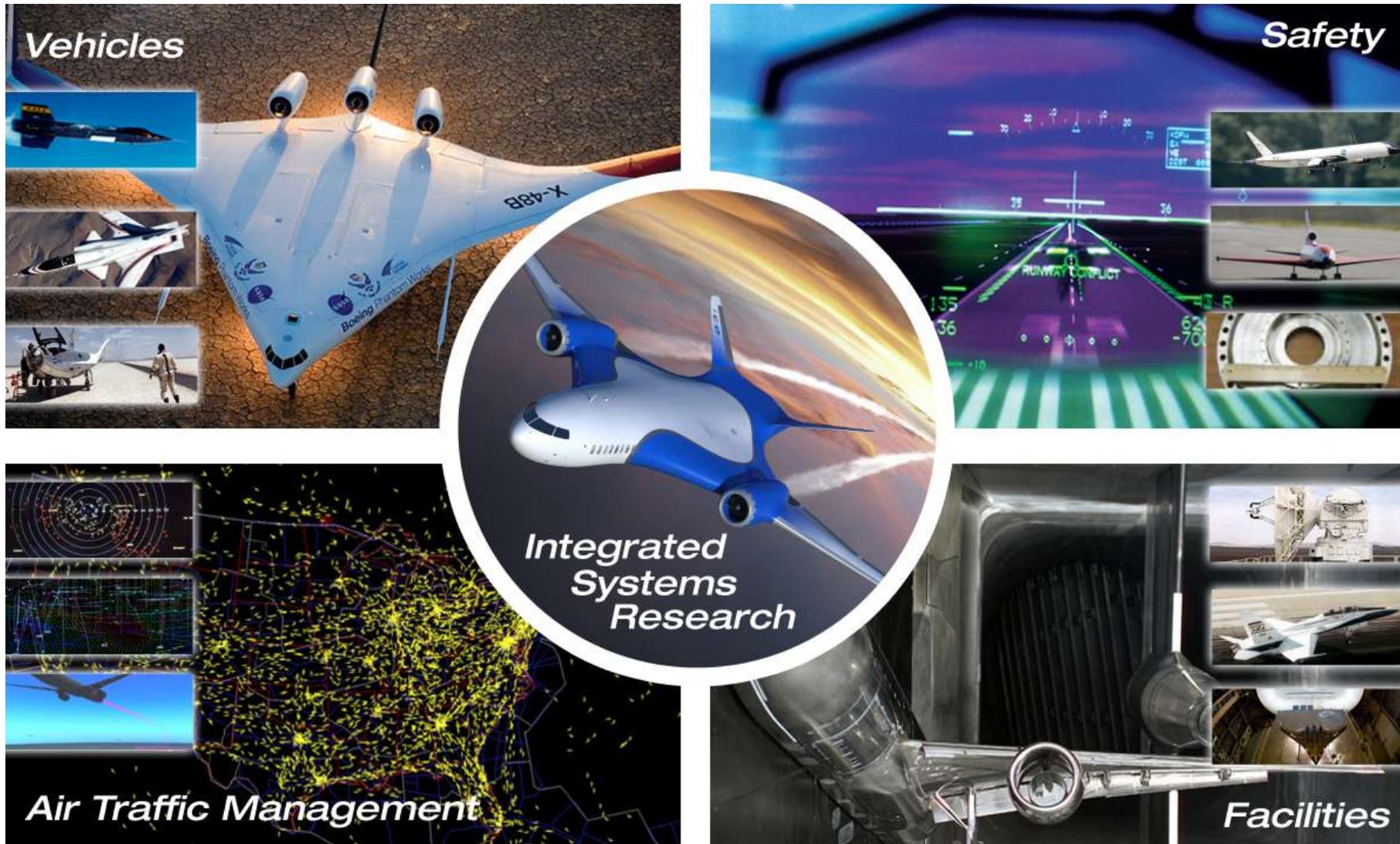
Exploring the diverse planetary bodies of our solar system

- Mars missions reformulated to pave the way for future exploration by robots and humans

Reaching farther into our solar system

- On a clear path for a 2018 launch
- Science case is stronger than ever in dark energy, dark matter, exoplanets and outer planets in our own solar system

Aeronautics



Space Technology Development



- Develops and matures broadly applicable technology in areas such as: in-space propulsion, robotics, space power systems, deep-space communications, cryogenic fluid handling, and entry, descent, and landing, which are essential for exploration beyond low Earth orbit.



- Advances revolutionary concepts and capabilities, lowering development costs and reducing risk for the Nation's activities in space by engaging NASA Centers, small businesses, academia, industry, other Government agencies and international partners.



- Leads NASA's efforts in transferring and commercializing technology to a wide range of users to ensure the full economic value and societal benefit of these innovations is realized.

American Innovation



Everything NASA does benefits an American economy that is built to last



By pushing the boundaries of technology, NASA's programs keep American businesses and workers on the cutting edge



Over the past year, NASA has worked in all 50 states, including technology development partnerships with more than 4,000 American companies

Aeronautics research is leading to less congested airways and a more environmentally friendly aviation industry

Investing in Space Technology today enables tomorrow's missions, while at the same time growing the innovation economy by creating new industries, jobs, products and services

Investing in America



- NASA has a balanced and stable top-line budget for FY 2013
- We are committed to maintaining America's leadership in space while implementing the bipartisan program agreed to by the President and Congress
- Laying the foundation for remarkable discoveries here on Earth and deep in space
- Spurring innovation, research and development that will fuel the American economy for years to come