

A Workforce Innovating To Go Farther

Space Launch System/Multi-Purpose Crew Vehicle

NASA is innovating to continue American leadership in an ambitious space program that takes us farther than ever before. The Agency is supporting technology innovation and commercial partnerships that fuel the American economy. With the development of the newest generation of space transportation, the Space Launch System (SLS) and the Orion Multi-Purpose Crew Vehicle, NASA is developing capabilities to access deep space destinations like the Moon, an asteroid, and Mars.

This capability is being built right here in the United States. Thousands of workers in over 30 states are currently building our Nation's next generation of space travel.

An exploration flight test of Orion will take place in 2014 with a follow-on integrated Orion/SLS uncrewed flight in 2017.

A crewed flight of the integrated deep space system will occur as early as 2021.



Game-Changing Innovation

International Space Station—A Laboratory for Life Improvement Today

The United States has an active astronaut program. In fact, American human space flight occurs daily on board the International Space Station (ISS).



NASA is committed to maintaining American excellence in science, technology, engineering, and mathematics (STEM) while sustaining a long-term human presence in space. The ISS provides important technology and innovation development, not only for future long-term human space missions, but to enhance life on Earth today.

Outstanding advances in microbial vaccine development, unprecedented cancer research involving treatment delivery, and improved

water purification technologies are just some of the technological advances that research on board the ISS has provided to life here on Earth.

Science

NASA is committed to groundbreaking science missions today and in the future. Our missions focus on providing critical data about our home planet, unraveling the mysteries of our universe, understanding solar variability and the impacts of space weather, and exploring the diverse planetary bodies of our solar system.

Aeronautics

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



Investment in American Technology

By pushing the boundaries of technology, NASA's programs keep American business and workers on the cutting edge. Investing in technology development today enables future missions of NASA while growing the economy by creating new industries, jobs, products, and services. To ensure access to the most innovative tech development, NASA partners with American companies throughout the Nation in all 50 states.

\$12.5 Billion in FY 2011 Obligated to American Industry

Inspiring the Next Generation

Over the past year, NASA's K-12 education projects reached more than 1 million students through STEM programs and initiatives. The Summer of Innovation Program engaged over 45,000 students and over 5,500 educators through camps and activities in 46 states, the District of Columbia, and Puerto Rico.



\$941 Million in FY 2011 Obligated to Educational Institutions Throughout the Country

Investing in a New Aerospace Economy

Commercial Partners

NASA is committed to developing a new aerospace economy. The Agency is currently partnering with American industry to achieve safe and reliable access to low-Earth orbit and the ISS.

In fact, private industry began test flights in 2010, and these will continue through 2012. This progress will culminate with human access to the ISS by 2017.

Building a strong commercial space industry enables the development of a capability that will assure the Nation's future in space. Doing so will increase national revenue while positioning American companies as competitors in the global marketplace in the space economy.



NASA Technologies Americans Use Daily

TV Satellite Dish

NASA developed ways to correct errors in the signals coming from spacecraft. This technology is used to reduce noise in TV signals coming from satellites.

Medical Imaging

NASA developed ways to process signals from spacecraft to produce clearer images. This technology also makes photolike images of the insides of our bodies possible.

Vision Screening System

This technology uses techniques developed for processing space images to examine the eyes of children and find out quickly if they have any vision problems. The child doesn't have to say a word!

Ear Thermometer

Instead of measuring temperature using a column of mercury (which expands as it heats up), this thermometer has a lens like a camera and detects infrared energy, which we feel as heat. The warmer something is (like your body), the more infrared energy it puts out. This technology was originally developed to detect the birth of stars.

Firefighter Equipment

Firefighters wear suits made of fire-resistant fabric developed for use in spacesuits.

Smoke Detector

These devices were first used in the Earth-orbiting space station called Skylab (launched back in 1973) to help detect toxic vapors. Now they are used in most homes and other buildings to warn people of fire.

Automobile Design Tools

A computer program developed by NASA to analyze a spacecraft or airplane design and predict how parts will perform is now used to help design automobiles.

Thermal Gloves and Boots

Thermal gloves and boots have heating elements that run on rechargeable batteries worn on the inside wrist of the glove or embedded in the sole of the ski boot. This technology was adapted from a spacesuit design for the Apollo astronauts.

Advanced Plastics

Spacecraft and other electronics need very special, low-cost materials as the base for printed circuits (like those inside your computer). Some of these "liquid crystal polymers" have turned out to be very good, low-cost materials for making containers for food and beverages.



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National Aeronautics and Space Administration



NASA

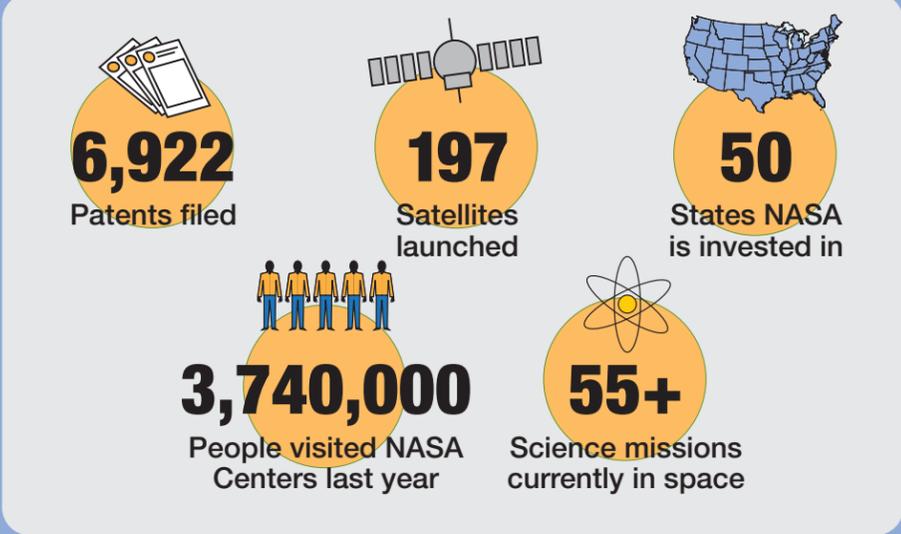
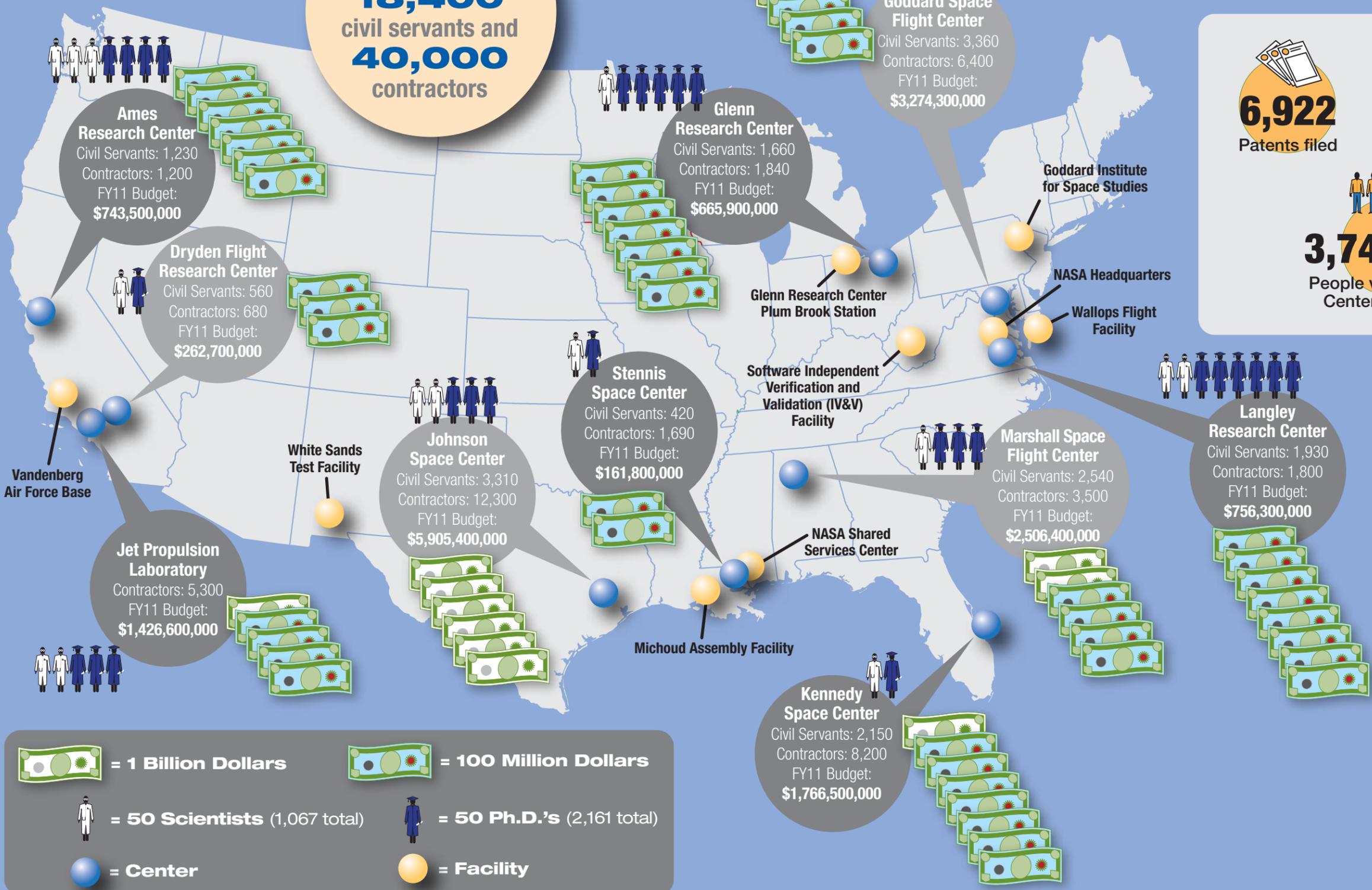
Reaching for New Heights

www.nasa.gov

NASA Investment in the Nation

NASA
provides jobs to
18,400
civil servants and
40,000
contractors

\$.80
NASA invests over 80 cents of every dollar it receives in American businesses, academia, and nonprofit organizations.



- Business: **\$12,529,600,000**
- Large Business: **\$10,018,900,000**
- Small Business: **\$2,517,700,000**
- Small Disadvantaged Business: **\$859,700,000**
- 8(a) Program: **\$462,400,000**
- Woman-Owned Business: **\$385,700,000**
- Small Business Innovation Research and Technology Transfer: **\$204,000,000**
- Education: **\$941,400,000**
- Nonprofit Institutions: **\$601,700,000**

= 1 Billion Dollars = 100 Million Dollars

= 50 Scientists (1,067 total) = 50 Ph.D.'s (2,161 total)

= Center = Facility

All information based on FY11 actuals