Recognized around the world as the “Home of Human Space Flight,” Houston’s Johnson Space Center is taking critical steps today to expand human exploration into deep space. From the early days of Gemini and Apollo and then Space Shuttle, to the International Space Station today and the new Orion program, JSC has the key leadership role to manage, develop and operate America’s major human space programs.

Today, as JSC flight controllers staff Mission Control 24/7/365 for the Space Station while its crew members perform key research for future long-term missions, JSC leads development of Orion, the first deep space human-rated vehicle, which completed its first test mission in 2014. To go further with available resources, JSC is reinventing many technical and managerial processes to expand capabilities to safely take humans to new destinations, perhaps to an asteroid and ultimately to Mars.

It’s often said that space budgets aren’t spent in space, that the money is spent right here on the ground. Space exploration benefits include advanced research, technology, education, business and high-tech jobs here on Earth in addition to exploring new worlds with new, advanced spacecraft. This document is just a glimpse of the resources and benefits that NASA brings to Texas and Houston where JSC is a powerful force creating and sharing America’s future in human spaceflight.
Select JSC Programs Advancing Human Spaceflight in FY14

International Space Station
ISS

Orion Multi-purpose Crew Vehicle
Orion

Commercial Spaceflight Activities
CCP

Human Research Program
HRP

Advanced Exploration Systems
AES

#ISS
The station is a blueprint for global cooperation and scientific advancements, a destination for growing a commercial marketplace in low-Earth orbit and a test bed for new deep space exploration technologies, including commercial cargo.

JSC manages development and operations of NASA’s new exploration spacecraft, designed to carry astronauts to destinations in deep space, including an asteroid and Mars.

NASA's Commercial Spaceflight activities provide cargo services for ISS and facilitate development of U.S. commercial crew space transportation for safe, reliable, cost-effective access to low-Earth orbit.

JSC is the hub of human spaceflight research, coordinating R&D projects in space radiation, exploration, medical capability, microgravity, human factors, habitability, and behavioral health by technical experts.

JSC is pioneering rapidly developing prototype systems and technologies, demonstrating key capabilities, and validating operational concepts for human missions beyond Earth orbit.

$2.6B
$1.1B
$894M
$128M
$95.5M

www.nasa.gov/station
JSC FY 2014 Budget within and outside of Texas

White Sands Test Facility

$63.4 Million on contracts plus government staff + $2.47 Billion on contracts with Texas as place of performance

Outside of Texas $1.56 Billion on contracts

Within Texas

NASA / JSC Workforce in FY 2014

Texas and Beyond

Total Estimated Workforce

11,667

Contractors 8,617
Federal Employees 3,050

Texas Only

Total Estimated Workforce

10,433

Contractors 7,431
Federal Employees 3,002

Estimated Salaries in US Economy

$1.84B

Estimated Salaries in Texas Economy

$1.7B

Select FY 2014 NASA Expenditures in Texas

$91M
Small Businesses
$90.6M of NASA funding went to 205 small businesses in Texas for space-related contracts

$33M
Small Disadvantaged Businesses
$33.1M of NASA funding went to 56 small disadvantaged business direct contracts

$52M
Woman-owned Businesses
NASA spent $51.6M purchasing space-related work by woman-owned businesses in Texas

$10M
SBIR
Awarded $10M to the Small Business Innovation Research and Technology Transfer

$26M
8(a) Contracts
35 formal U.S. Small Business Administration contracts for small disadvantaged businesses.

$4M+
NASA Research Announcements
1/3 of Research Opportunities in Space and Earth Science (ROSES) in Texas totaled $4M

$47M
Universities
NASA had 44 universities and related organizations with contracts totaling $46.7M

$58M
Non-profit Awards
NASA had 22 non-profit awards totaling $57.6M in the state of Texas

www.nasa.gov/exploration
High-Tech, Diverse JSC Federal Workforce

- 65% are engineers or scientists
- 90% hold a Bachelor’s degree
- 40% hold a graduate degree
- 27% of JSC workforce are minorities
- 2,313 hold science, engineering or technical degrees
- 1/3 of JSC employees are female
- 74% perform scientific, technical aerospace work

Education Leadership in FY14

- Texas High School Aerospace Scholars online course and summer experience at JSC in FY14 engaged students from:
  - 113 High Schools
  - 5 Homeschools
  - 91 Texas Cities

- $47M for contracts with 44 universities, education and training organizations in Texas

Space Center Houston in FY14

- JSC’s official visitor center (non-profit)
- 800K+ visitors
- $18.7M local expenditures
- $20.4M FY14 revenue
- 100K+ students and teachers in FY14
- $7.6M total salaries

Texas High School Aerospace Scholars

“100% of Texas legislative districts have participated with nominations in six years.”

http://solarsystem.nasa.gov
To accelerate technology development and strengthen commercialization of federally-funded research, JSC partners with public agencies, private companies and academia to develop broadly applicable technologies.

JSC Strategic Partnership Examples

http://technology.jsc.nasa.gov

Robotics Technology
JSC researchers apply their expertise to solve problems for automotive, oil and gas, aerospace, and other industries in Texas and beyond.

Oil & Gas Partnerships
JSC has developed and tested monitoring and inspection tools for deepwater drilling systems and provides access to the Neutral Buoyancy Laboratory for underwater testing and training.

Commercial Space
Austin-based Satellite Design's miniature pico-satellite was launched to the Space Station where it will demonstrate attitude control while orbiting Earth.

Medical
GRoK Technologies LLC, located in League City, Texas, has licensed several JSC patents they use to develop devices for medical research.

Solar Refrigerators Store Life-Saving Vaccines
A former JSC engineer used his experience on the Advanced Refrigeration Technology Team and started SunDanzer Refrigeration Inc., which specializes in solar-powered refrigerators that provide safe storage for vaccines in rural areas around the world.

Critical Neonatal Transportation - Texas-Funded Space Alliance Technology Outreach Program (SATOP)
JSC and technical partners offer free technical assistance for small business challenges such as the Neonatal Transport project for low-birth weight at-risk infants by JSC and Texas Children’s Hospital to reduce patient risk for critical neonatal transportation. The SATOP program has created over 2,000 jobs with $193M total economic impact.

On the Horizon...
Everyday at JSC thousands work to reach Mars in technical programs, adopting innovative strategies to maximize our reach and go farther with each taxpayer dollar, making the most of every resource to reach the space frontier. The Journey to Mars image on the back cover, shows the way from the current Earth Reliant Space Station and commercial access to space missions, to a Proving Ground mission to an asteroid aboard Orion and the world's largest rocket, and then reaching Earth Independent for multiple year missions to explore Mars, its moons and other deep space destinations.

http://solarsystem.nasa.gov
http://technology.jsc.nasa.gov
www.nasa.gov/jscpartnerships
www.spacetechsolutions.com
www.nasa.gov/jscpartnerships

To accelerate technology development and strengthen commercialization of federally-funded research, JSC partners with public agencies, private companies and academia to develop broadly applicable technologies.

JSC Strategic Partnership Examples

http://technology.jsc.nasa.gov

Robotics Technology
JSC researchers apply their expertise to solve problems for automotive, oil and gas, aerospace, and other industries in Texas and beyond.

Oil & Gas Partnerships
JSC has developed and tested monitoring and inspection tools for deepwater drilling systems and provides access to the Neutral Buoyancy Laboratory for underwater testing and training.

Commercial Space
Austin-based Satellite Design’s miniature pico-satellite was launched to the Space Station where it will demonstrate attitude control while orbiting Earth.

Medical
GRoK Technologies LLC, located in League City, Texas, has licensed several JSC patents they use to develop devices for medical research.

Solar Refrigerators Store Life-Saving Vaccines
A former JSC engineer used his experience on the Advanced Refrigeration Technology Team and started SunDanzer Refrigeration Inc., which specializes in solar-powered refrigerators that provide safe storage for vaccines in rural areas around the world.

Critical Neonatal Transportation - Texas-Funded Space Alliance Technology Outreach Program (SATOP)
JSC and technical partners offer free technical assistance for small business challenges such as the Neonatal Transport project for low-birth weight at-risk infants by JSC and Texas Children’s Hospital to reduce patient risk for critical neonatal transportation. The SATOP program has created over 2,000 jobs with $193M total economic impact.

On the Horizon...
Everyday at JSC thousands work to reach Mars in technical programs, adopting innovative strategies to maximize our reach and go farther with each taxpayer dollar, making the most of every resource to reach the space frontier. The Journey to Mars image on the back cover, shows the way from the current Earth Reliant Space Station and commercial access to space missions, to a Proving Ground mission to an asteroid aboard Orion and the world's largest rocket, and then reaching Earth Independent for multiple year missions to explore Mars, its moons and other deep space destinations.

http://solarsystem.nasa.gov
http://technology.jsc.nasa.gov
www.nasa.gov/jscpartnerships
www.spacetechsolutions.com

To accelerate technology development and strengthen commercialization of federally-funded research, JSC partners with public agencies, private companies and academia to develop broadly applicable technologies.

JSC Strategic Partnership Examples

http://technology.jsc.nasa.gov

Robotics Technology
JSC researchers apply their expertise to solve problems for automotive, oil and gas, aerospace, and other industries in Texas and beyond.

Oil & Gas Partnerships
JSC has developed and tested monitoring and inspection tools for deepwater drilling systems and provides access to the Neutral Buoyancy Laboratory for underwater testing and training.

Commercial Space
Austin-based Satellite Design’s miniature pico-satellite was launched to the Space Station where it will demonstrate attitude control while orbiting Earth.

Medical
GRoK Technologies LLC, located in League City, Texas, has licensed several JSC patents they use to develop devices for medical research.

Solar Refrigerators Store Life-Saving Vaccines
A former JSC engineer used his experience on the Advanced Refrigeration Technology Team and started SunDanzer Refrigeration Inc., which specializes in solar-powered refrigerators that provide safe storage for vaccines in rural areas around the world.

Critical Neonatal Transportation - Texas-Funded Space Alliance Technology Outreach Program (SATOP)
JSC and technical partners offer free technical assistance for small business challenges such as the Neonatal Transport project for low-birth weight at-risk infants by JSC and Texas Children’s Hospital to reduce patient risk for critical neonatal transportation. The SATOP program has created over 2,000 jobs with $193M total economic impact.

On the Horizon...
Everyday at JSC thousands work to reach Mars in technical programs, adopting innovative strategies to maximize our reach and go farther with each taxpayer dollar, making the most of every resource to reach the space frontier. The Journey to Mars image on the back cover, shows the way from the current Earth Reliant Space Station and commercial access to space missions, to a Proving Ground mission to an asteroid aboard Orion and the world's largest rocket, and then reaching Earth Independent for multiple year missions to explore Mars, its moons and other deep space destinations.

http://solarsystem.nasa.gov
http://technology.jsc.nasa.gov
www.nasa.gov/jscpartnerships
www.spacetechsolutions.com
To reach new heights and reveal the unknown to benefit all humankind.

- Developing planetary independence by exploring Mars, its moons and other deep space destinations.
- Rocket and Orion spacecraft orbit with the Space Launch System.
- The next step: traveling beyond Low-Earth Orbit.
- Low-Earth orbit provide access to U.S. companies.
- Expansion capabilities by visiting an asteroid rendezvoused to a lunar distant retrograde orbit.
- Mars mission: 6 to 12 months, Earth to Mars.
- Providing ground mission: 4 to 12 months, Earth to Earth.
- Independent mission: 2 to 3 years, Earth to Earth.

NASA: Exploration to Mars.