

A large, detailed image of the planet Mars, showing its reddish-orange surface with various craters and dark spots, positioned on the left side of the slide.

KENNEDY SPACE CENTER

GO

Robert D. Cabana
Center Director

Exploration



Photo Courtesy of Royal Geographical Society



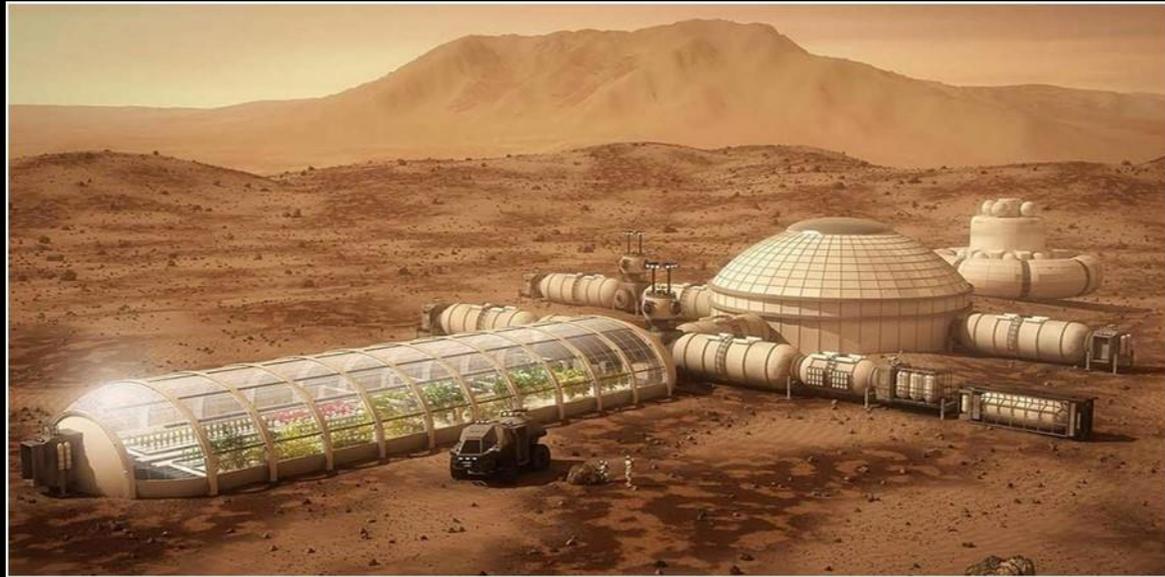
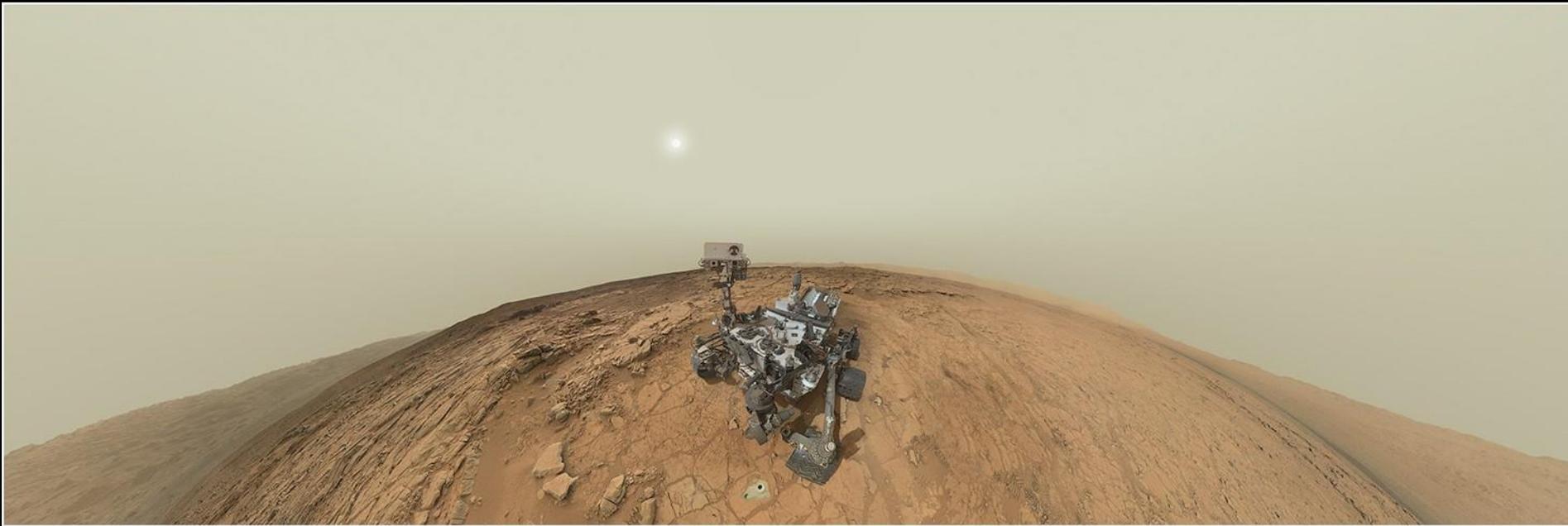
Pioneering



Photo Courtesy of Library of Congress



Exploration & Pioneering of Mars



JOURNEY TO MARS

KSC Contributions

National Aeronautics and
Space Administration



HUBBLE SPACE
TELESCOPE

INTERNATIONAL
SPACE STATION

SPACE LAUNCH
SYSTEM

ORBITERS

LANDERS

TECHNOLOGY
EXPLORATION
SCIENCE

DEIMOS
PHOBOS

MARS
TRANSIT
HABITAT

COMMERCIAL
CARGO AND CREW

ORION
CREWED
SPACECRAFT

DEEP
SPACE
HABITAT

SOLAR
ELECTRIC
PROPULSION

ASTEROID
REDIRECT
MISSION

MISSIONS: 6-12 MONTHS
RETURN: HOURS

EARTH RELIANT

MISSIONS: 1-12 MONTHS
RETURN: DAYS

PROVING GROUND

MISSIONS: 2-3 YEARS
RETURN: MONTHS

EARTH INDEPENDENT



JOURNEY TO MARS

KSC Contributions

**EARTH
RELIANT**

HUBBLE SPACE
TELESCOPE

INTERNATIONAL
SPACE STATION

ISS, LSP

- SPHERES SLOSH Experiment
- ISS Research

R&T

- Ground and Launch System Technologies

ISS

- Payload Processing
- CRS Launches

CCP

- Boeing
- SpaceX
- Blue Origin
- Sierra Nevada Corporation

COMMERCIAL
CARGO AND CREW

MISSIONS: 6-12 MONTHS
RETURN: HOURS

EARTH RELIANT

TECHNOLOGY
EXPLORATION
SCIENCE

Commercial Crew & Cargo



Commercial Cargo



Orbital Cygnus

Commercial Crew



Boeing CST-100 Starliner



SpaceX Dragon



SpaceX Crew Dragon

PROVING
GROUND

JOURNEY TO MARS

KSC Contributions



SPACE LAUNCH
SYSTEM



GSDO

- Mobile Launcher
- Vehicle Assembly Building
- Pad 39B
- Orion Processing

R&T

- Space Life Sciences and Habitation Systems
- Robotics and Autonomous Systems



ORION
CREWED
SPACECRAFT

DEEP
SPACE
HABITAT

SOLAR
ELECTRIC
PROPULSION

ASTEROID
REDIRECT
MISSION

MISSIONS: 1-12 MONTHS
RETURN: DAYS

PROVING GROUND

GSDO, LSP

- ARM Launches

CPD *(Safe Facility/Property Use)*

- Pad 39A - SpaceX
- C3PF - Space Florida/Boeing
- Ex Park - SPFL/Blue Origin
- SLF - SPFL
- VAB HB2, Pad 39C



JOURNEY TO MARS

KSC Contributions

EARTH
INDEPENDENT

LSP

- MAVEN Launch
- InSight Launch
- Mars 2020 Launch

R&T

- Surface Systems and In Situ Resource Utilization (ISRU)
- EXO-Sim, EMC (Evolvable Mars Campaign) Surface Operations Simulator



LSP

- OSIRIS-REx Launch

TECHNOLOGY
EXPLORATION
SCIENCE

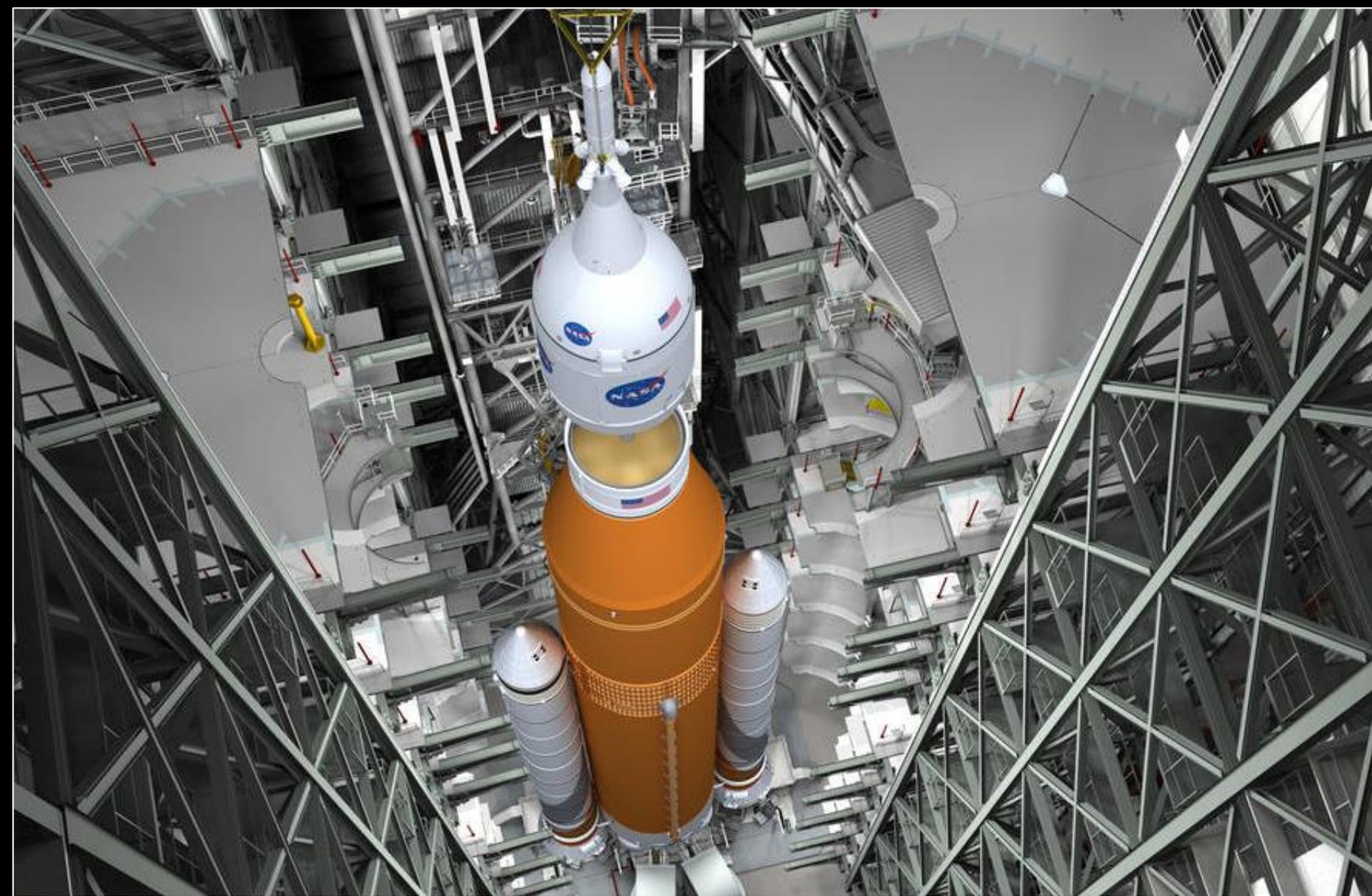
Mobile Launcher



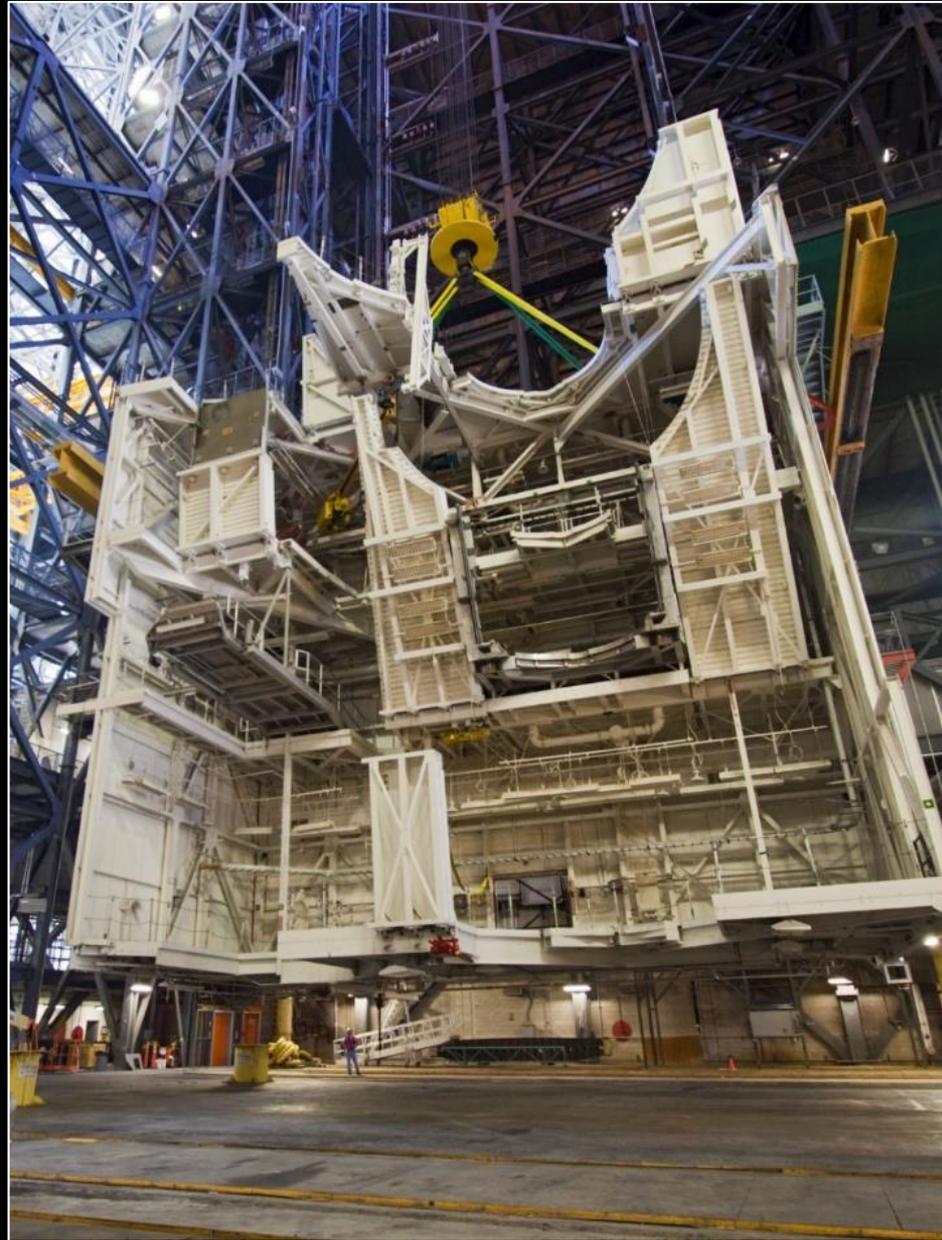
Vehicle Assembly Building



SLS in the VAB



Inside the VAB



VAB Platforms



VAB Platforms



KSC – A New Era



The Transformation of KSC



- Past 4 years have seen tremendous change:
 - 43% reduction in workforce
 - 28% reduction in active facilities
 - 30% reduction in cost of technical capabilities
 - Developed a robust plan to execute KSC's vision



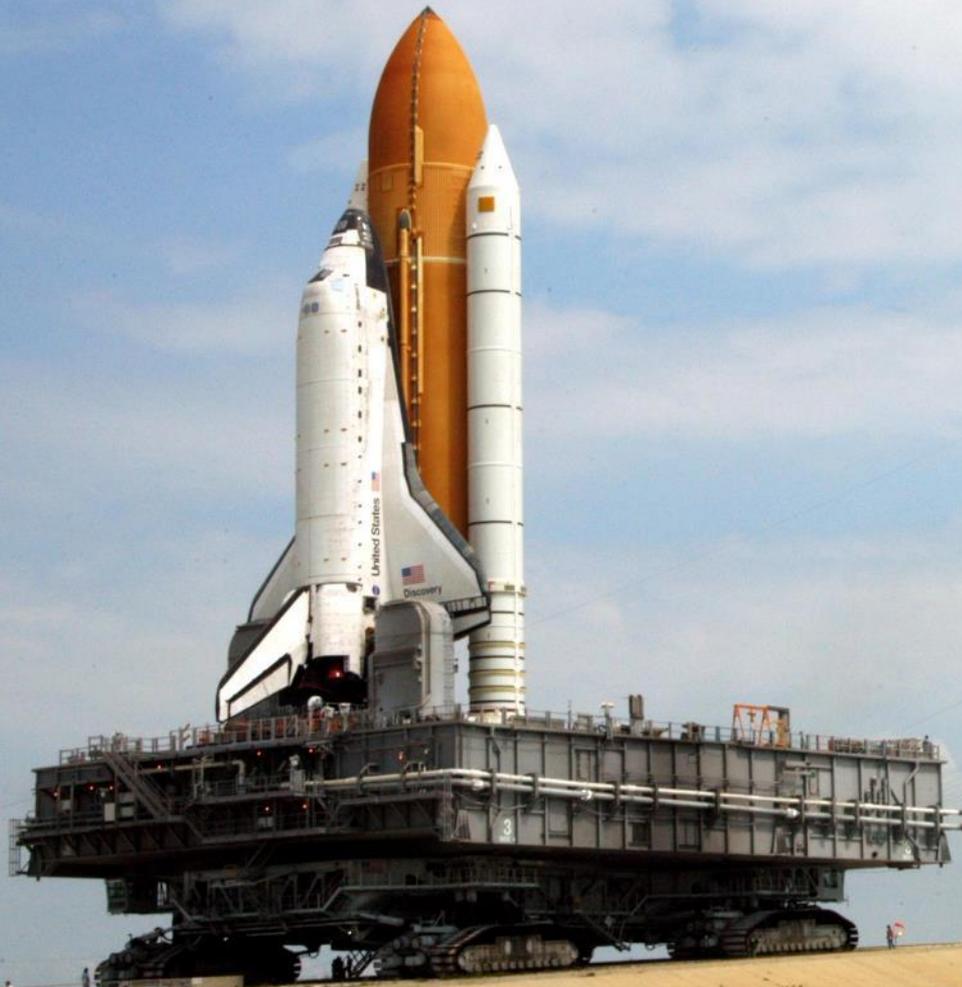
Launch Pad 39A – Past



Launch Pad 39A – Present



Launch Pad 39B – Past



Launch Pad 39B – Present



Launch Complex 46B



Orbiter Processing Facility 3 – Past



Commercial Crew & Cargo Processing Facility



Launch Control Center – Firing Room 4



Columbia



Challenger



Discovery



Atlantis



Endeavour

209 12 48 5
0 40 56 00 0 00 00 0 00 00
LOCAL TIME WINDOW REMAINING FIRST FIVE MINUTES
HOLD TIME REMAINING



LANDING RECOVERY DIRECTOR CHIEF NASA TEST DIRECTOR ASST. NASA TEST DIRECTOR NASA TEST DIRECTOR ASST. ORBITER TEST CONDUCTOR ORBITER

LAUNCH DIRECTOR

ASST. LAUNCH DIRECTOR

1049646 1049645 1049644 1049643

O&C High Bay



Launch Control Center – Firing Room 1



Central Campus



Exploration Park & the Space Life Sciences Lab



Shuttle Landing Facility



- We are doing everything we can to make spaceflight more efficient and affordable
 - Enable & leverage commercial capabilities where they exist
 - Leverage government capabilities where commercial capabilities don't exist
- We have transformed into a multi-user spaceport, and are paving the way on NASA's journey to Mars!



