



Johnson Space Center

Mission Control, Houston

Mission Control Center and Flight Operations

Since 1965, Mission Control has been the helm of America's human spaceflights. Since International Space Station assembly began in 1998, the center has become a focal point for human spaceflight worldwide. The teams that work in Mission Control, Houston, have been vital to every U.S. human spaceflight since the Gemini IV mission in 1965, including the Apollo missions that took humans to the moon and the more than 110 space shuttle flights since 1981.

The teams of the front rooms

Now, with a permanent human presence aboard the International Space Station, flight control teams of experienced engineers and technicians are on duty 7 days a week, 24 hours a day, 365 days a year. Flight controllers keep a constant watch on the crew's activities and monitor spacecraft systems, crew health and safety as they check every system to ensure operations proceed as planned. These highly



An overall view of activity in the shuttle's Flight Control Room as flight controllers participate in a long-duration simulation for the STS-114 mission.

trained flight controllers have the skills needed to closely monitor and maintain increasingly complex missions and to respond to unexpected events.

The shuttle's Flight Control Room is staffed by about 20 flight controllers when in operation, and the station's with about a dozen. These "front rooms" are supported by dozens more experts working in back rooms located around the perimeter of the main control rooms.

mission control

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The changing face of Mission Control, Houston

Mission Control, Houston, has expanded beyond just controlling space shuttle missions. The expanded facility now includes the International Space Station Flight Control Room, a Training Flight Control Room used to practice simulated spaceflights, a Life Sciences Control Room used to oversee various experiments, an Exploration Planning Operations Center used to test new concepts for operations beyond low-Earth orbit, and the historic Apollo Flight Control Room that has been preserved and designated a national historical landmark. The Apollo room, from which controllers guided humankind's first landing on the moon, was last used operationally in 1995 for control of space shuttle missions.

Revamped in the mid 1990s, the newest generation of control rooms is designed with commercially available computer workstations similar to those used in many modern offices. This change, from the old Apollo-style, mainframe computer-based

rooms to the current architecture, reduced the cost of operating and maintaining Mission Control and dramatically increased the center's mission support capabilities.

Faced with the growing demands of increasingly complex missions, Johnson Space Center designed and built an expanded Mission Control Center with modern capabilities better suited to the challenges future spaceflight will bring. From the historic Apollo Flight Control Room, NASA ushered in a remarkable chapter in human space exploration; from this new Mission Control Center, an equally demanding and exciting chapter will be written into the history of human spaceflight.

To learn more about Mission Control, Houston, visit us on the Web at www.nasa.gov/centers/johnson and

www.nasa.gov