Commercial Crew Transportation

NASA's Commercial Crew Transportation Capability (CCtCap) contracts bring the United States one step closer to launching crew. Commercial transportation to and from the International Space Station (ISS) will provide for additional research and discovery on the orbiting laboratory. The station is critical for NASA's continued research for understanding and overcoming the challenges of long-duration spaceflight necessary for deep space exploration missions.

Goal: Facilitate the development of U.S. commercial crew space transportation systems to provide safe, reliable, cost-effective access to and from the station and low-Earth orbit from America.

- Transport pressurized scientific research and cargo and increase the station crew, enabling twice the amount of scientific research to be conducted.
- By encouraging private companies to provide human transportation services to and from low-Earth orbit, NASA can expand its focus on building spacecraft and rockets for deep space exploration missions.

Safety:

- Crew safety is paramount.
- Systems must meet NASA's rigorous safety standards for human spaceflight.
- Robust NASA insight into safety and performance.

Multiple Contract Awards:

- Competition results in most cost-effective and safe systems and provides critical redundancy.

Contract Terms:

- FAR-based firm, fixed-price contracts; both providers must meet the same NASA requirements.
- Components:
  - Certification: Five mandatory milestones, including a crew flight test to ISS with a NASA astronaut to validate system performance.
  - Post-Certification Missions (PCMs): Five mandatory milestones; guaranteed order of two missions per award; maximum order of six missions per award.
  - Interim Milestones: Each contractor proposed additional milestones to demonstrate meaningful progress in the development and certification of its crew transportation system.
  - Special Studies and Analyses

PROVIDERS

Boeing

Spacecraft:
CST-100 Starliner

Launch Vehicle:
ULA Atlas V

Height:
171 Feet

Launch Pad:
Space Launch Complex 41

Destination:
International Space Station

Maximum potential value:
$4.2B

SpaceX

Spacecraft:
Crew Dragon

Launch Vehicle:
Falcon 9

Height:
208 Feet

Launch Pad:
Launch Complex 39A

Destination:
International Space Station

Maximum potential value:
$2.6B

Commercial Crew Program

Commercial Crew Astronauts

NASA selected four astronauts in July 2015 to work with Boeing and SpaceX as they finalize the designs of their crew transportation systems. Bob Behnken, Eric Boe, Doug Hurley and Suni Williams have spent time in both spacecraft evaluating and training on both systems. Crews have not been assigned to specific missions or spacecraft, so the team is cross-training and aiding in development of both. NASA will decide at a later date which astronauts will fly aboard which spacecraft – the Boeing CST-100 Starliner and SpaceX Crew Dragon.

American Ingenuity

Lowering the cost of access to space and enhancing the U.S. economy.

Returning these launches to American soil has significant economic benefits, with more than 1,000 suppliers working across nearly every state on commercial crew spacecraft systems. They are applying their most efficient and innovative approaches to get astronauts back into space on American-led spacecraft and rockets. These American companies have flexibility in the design and development of state-of-the-art U.S.-based transportation systems to low-Earth orbit for NASA and other customers.

2X more time for research

Focus on Science

NASA requires these spacecraft to carry 4 crew members, enabling the U.S. to expand the space station crew to 7 astronauts and cosmonauts. It only takes 6 crew members to maintain the station, so an extra person translates to 40 additional hours of crew time per week for research in Earth, space, physical and biological sciences to advance scientific knowledge for the benefit of people living on Earth.

Transforming Human Spaceflight for Future Generations.