

Space X Crew-2 Mission

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In News: Four astronauts were launched to the International Space Station (ISS) from Florida as part of a collaboration between NASA and SpaceX under the Commercial Crew Program.

About SpaceX Crew-2 Mission

- The mission is called Crew-2 and is the second crew rotation of the SpaceX Crew Dragon and the first with international partners.
- Two NASA astronauts and two each from the Japan Aerospace Exploration Agency (JAXA) and the European Space Agency are among the four astronauts (ESA).
- NASA's Shane Kimbrough and Megan McArthur will lead the mission as spacecraft commander and pilot, respectively, while mission specialists Akihiko Hoshide and Thomas Pesquet will travel to the space station for a six-month science mission.
- The aim of this test flight was to see whether SpaceX capsules could be used to shuttle astronauts to and from the International Space Station on a regular basis.
- Demo-2 was followed by the Crew-1 mission in November, which was the first of six crewed missions between NASA and SpaceX marking the beginning of a new era for space travel.

What will Crew-2 do at the ISS?

- Crew-1 team members joined Expedition 64 members in mid-November 2020 to perform microgravity experiments on the International Space Station.
- Materials to explore food physiology and the impact of dietary changes on immune function and the gut microbiome, as well as how those improvements might help crews adapt to spaceflight, were among the research

materials brought by the crew.

- Central focus during this time will be to continue a series of Tissue Chips in Space studies.
 - Tissue Chips are small models of human organs that contain multiple cell types that behave similarly to the human body.
 - According to NASA, these chips can potentially speed up the process of identifying safe and effective drugs and vaccines.

What is the Commercial Crew Program?

- The primary goal of this programme is to reduce the cost of travel to space so that cargo and crew can be easily transported to and from the ISS, allowing for further scientific study.
- NASA intends to lower its costs by sharing them with commercial partners such as Boeing and SpaceX, as well as providing incentives for the companies to design and construct Commercial Orbital Transportation Services (COTS).
- Second, NASA should concentrate on developing spacecraft and rockets for deep space exploration missions by promoting private companies including Boeing and SpaceX to provide crew transportation services to and from low-Earth orbit.
- What this means is that in order to transport astronauts to space, NASA has been looking at partnering with companies such as SpaceX who are focused on providing this service.
- To avail their services, NASA pays these companies, similar to how a passenger pays for a flight ticket to go from point A to B.
- Boeing and SpaceX were selected by NASA in September 2014 to develop transportation systems meant to transfer crew from the US to the ISS. These integrated spacecraft, rockets and associated systems will carry up

to four astronauts on NASA missions, maintaining a space station crew of seven to maximize time dedicated to scientific research on the orbiting laboratory.