

In first, SpaceX to send all-civilian crew into Earth orbit

September 15 2021, by Lucie Aubourg



The Inspiration4 mission commander is Jared Isaacman, a billionaire who made his fortune on the Shift4 Payments platform.

SpaceX is preparing to send the first all-civilian crew into Earth orbit Wednesday evening, capping a summer of private spaceflight with one

of the most ambitious tourism missions to date.

A five-hour launch window for "Inspiration4" opens from 8:02 pm (0002 GMT Thursday), and weather conditions remain good with an 80 percent chance of launch, according to official forecasters.

A Falcon 9 rocket, with a Dragon capsule at its top, will blast off from the legendary launch complex 39A at NASA's Kennedy Center in Florida, from where the Apollo 11 mission took off for the Moon.

The spaceship's trajectory will take it to an altitude of 357 miles (575 kilometers), deeper into space than the International Space Station (ISS), and the furthest any humans have gone since the 2009 Hubble telescope maintenance mission.

After spending three days orbiting the globe, the four-person crew, all Americans, will splash down off the Florida coast.

The mission was paid for by Jared Isaacman, a 38-year-old high school dropout, founder of Shift4 Payments, and aviator.

SpaceX hasn't disclosed what it cost him, but the price tag runs into tens of millions of dollars.

"We understand how lucky and fortunate we are," Isaacman told a press briefing Tuesday.

For the trip, Isaacman is bringing along three others selected through a competition.

Hayley Arceneaux, a pediatric cancer survivor, is a 29-year-old physician assistant. She will be the youngest American to go into orbit and the first person with a prosthesis, on a part of her femur.

Chris Sembroski, 42, is a US Air Force veteran who now works as an aerospace data engineer.

Sian Proctor, a 51-year-old geoscientist and educator, was almost selected to become an astronaut for NASA in 2009.

She will be only the fourth African-American woman to go to space.

Observation dome

The mission's stated goal is to represent a turning point in the democratization of space, by proving that the cosmos is accessible to people who have not been handpicked and trained for many years as astronauts.



All-civilian crew space mission
SpaceX's Crew Dragon capsule on a three-day orbit around the Earth

HAYLEY ARCENEAUX
Cancer survivor, physician assistant at St. Jude's Hospital in Tennessee
Youngest American to be sent to orbit around Earth and 1st person with prosthesis to go into space
Mission role: medical manager
Seat: represents 'hope'
Age: 29

SIAN PROCTOR
Geology teacher in Arizona, former astronaut candidate
Won seat by creating an online sales site linked to space
Pilot
Seat: represents 'prosperity'
Age: 51

JARED ISAACMAN
Billionaire pilot who chartered the mission
Holds a record for flying around the world in a light jet
Mission commander
Seat: represents 'leadership'
Age: 38

CHRIS SEMBROSKI
Air Force veteran who served in Iraq
Selected after making a donation as part of a fundraiser for St. Jude's Hospital
Manage cargo on board, communications with Earth
Seat: represents 'generosity'
Age: 42

Launch: Sept 15 from Florida

AFP  AFP Photo/John Kraus/Inspiration4 Source: SpaceX

Graphic on the four civilian passengers on the SpaceX mission.

For SpaceX, this is nothing less than a first step towards a multi-planetary humanity—founder and CEO Elon Musk's ultimate vision.

On board, their biological data including heart rate and sleep, as well as their cognitive capacities, will be analyzed.

They will also undergo tests before and after the trip, to measure its effect on their bodies. Their training only lasted about six months.

The flight should remain fully automated, but the crew has been trained by SpaceX to be able to take control in the event of an emergency.

The Dragon will be equipped, for the first time, with a cupola observation dome—the largest ever space window—to take in the view. The dome replaces the usual mechanism used on Dragons to dock with the ISS.

The crew undertook strenuous physical training, including climbing Mount Rainier, which stands 14,411-foot-tall (4,392 meters) in the US northwest.

They also completed high G-force training on a centrifuge—a long spinning arm—and jet flights.

As well as serving as a vehicle for SpaceX's ambitions, the mission aims to raise \$200 million for St Jude's Children's Research Hospital, a leading facility in Memphis.

Arceneaux was treated there as a child, and now works there.

The crew will take with them various objects—a ukulele, 66 pounds (30 kilograms) of hops intended to brew space beer, several digital assets known as non-fungible tokens—that will be auctioned off for the cause.

Space tourism

The space adventure bookends a summer marked by the battle of the billionaires Richard Branson and Jeff Bezos to reach the final frontier.

Branson, the Virgin Galactic founder, achieved the feat first, on July 11, and was followed by the Blue Origin boss nine days later.

But these flights only offered a few minutes of weightlessness. SpaceX's mission is far more ambitious.

This will be the fourth crewed mission for SpaceX, which has now sent 10 astronauts to the ISS for US space agency NASA.

The company is already working on future tourism missions, including one next January to the ISS.

© 2021 AFP

Citation: In first, SpaceX to send all-civilian crew into Earth orbit (2021, September 15)
retrieved 27 April 2024 from
<https://phys.org/news/2021-09-spacex-all-civilian-crew-earth-orbit.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.