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# Why is the launch of Boeing's Starliner significant?

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Written by [Alind Chauhan](#)

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Boeing's Starliner spacecraft aboard a United Launch Alliance Atlas V rocket rolls toward the launch pad, in preparation for the launch of Boeing's Starliner-1 Crew Flight Test (CFT), in Cape Canaveral, Florida, U.S. May 4, 2024. REUTERS/Steve Nesius

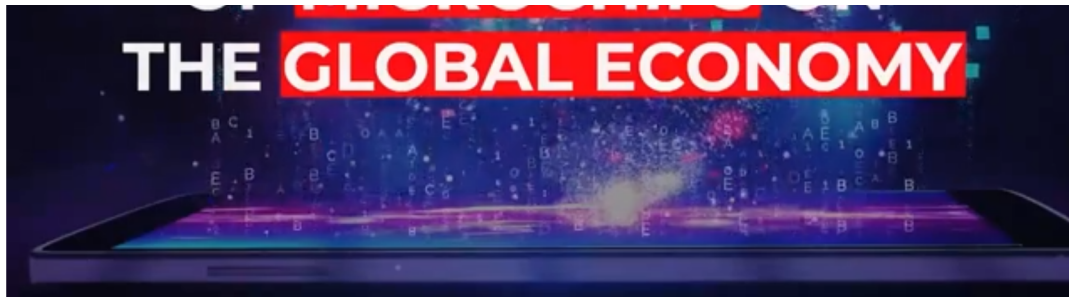
Boeing's Starliner spacecraft, carrying two NASA astronauts, **will be launched by an Atlas V rocket** from the Kennedy Space Center in Cape Canaveral, Florida, to the International Space Station (ISS) on Tuesday (May 7).

This will be Starliner's first crewed test flight. If the mission is successful, Boeing will become the second private firm to be able to provide NASA crew transport to and from the ISS, alongside Elon Musk's SpaceX.

The stakes are high, especially for Boeing. The image of its airline business has been tarnished by a recent series of safety and regulation issues. The company's space sector is also under pressure as the launch of Starliner's crewed test flight has been delayed for several years due to technical setbacks.

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Here is a look at the mission, why its launch was delayed, and the significance of the mission.

### But first, what is Boeing's Starliner?

Starliner is a partially reusable crew capsule, officially known as CST-100 (crew space transportation). The capsule, which is 5 m tall and 4.6 m wide, consists of two modules. One is the crew module, which can accommodate seven astronauts — although, for trips to the ISS, it will be modified for four astronauts and cargo. The crew module can be reused up to 10 times, with a six-month turnaround.

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The other is the service module — the powerhouse of the spacecraft — which supplies electricity, propulsion, thermal control, air, and water in space. This module is expandable.

### What is the mission?

The main objective of the mission is to see how Starliner performs in space with a crew onboard. It is supposed to dock with the ISS — a day after the launch — for around 10 days before it returns to the Earth.

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But before Starliner automatically docks with the space station, the crew members, who are NASA astronauts Barry “Butch” Wilmore and Sunita Williams, will test flying it manually. The crew will also “test seats, assess onboard life-support and navigation systems, as well as evaluating the system that moves cargo into the ISS,” according to a report by the BBC. The space suits worn by Wilmore and Williams will also be tested — these blue suits are around 40% lighter than their predecessors and have touchscreen-sensitive gloves.

During the return journey, NASA and Boeing will be keeping an eye on the spacecraft's heat shield and parachutes. They will slow the descent before airbags open to soften the moment of impact with the ground — unlike other crew capsules, Starliner will land on the ground and not in the sea, the BBC report added.

### What caused the delay?

After NASA retired its space shuttle fleet in 2011, it invited commercial space companies to help it transport astronauts and cargo to the ISS. Two companies got the contracts: SpaceX and Boeing. While SpaceX has been ferrying astronauts to and from the ISS since 2020, Boeing is yet to successfully launch its first crewed flight, something which may change on Tuesday.

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Starliner's first uncrewed flight itself came after four years of delay. Although it was set to take off in 2015, the company postponed it to 2019. When it did finally happen, a series of software and hardware failures thwarted the spacecraft from

getting into its planned orbit and docking with the ISS, according to a report published by The Conversation.

It took more than 80 fixes for Starliner to make its first successful uncrewed flight. Even after achieving the goal, there were concerns about the performance of some thrusters and the spacecraft's cooling system. Additional problems were found subsequently — there were issues with the safety of wiring and parachutes. As a result, Boeing delayed the launch of Starliner's first crewed flight from 2023 to where we are today.

### **Why is the mission significant?**

The mission's success is crucial for both NASA and Boeing. Currently, NASA has only one private company, SpaceX, which can take its astronauts and cargo to the ISS. Starliner getting approval for conducting routine flights to and from the ISS would give NASA a backup and option to not depend on one company or vehicle for space launches.

The success, however, is more important for Boeing. "It's a really big day for Boeing", Dr Simeon Barber, a space scientist at the UK-based Open University, told the BBC.

"The company has been working on the spacecraft for so long, they have had a few problems with the test flights and there's a lot riding on this".

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If Starliner completes its objectives, it will also help Boeing challenge SpaceX's dominance in the commercial space industry.