



STARLINK MISSION

MISSION OVERVIEW

SpaceX is targeting Monday, January 6 at 9:19 p.m. EST, or 2:19 UTC on January 7, for its third launch of Starlink satellites from Space Launch Complex 40 (SLC-40) at Cape Canaveral Air Force Station, Florida. A backup launch opportunity is available on Tuesday, January 7 at 8:57 p.m. EST, or 1:57 UTC on January 8.

Falcon 9's first stage supported a Starlink mission in May 2019, the Iridium-8 mission in January 2019, and the Telstar 18 VANTAGE mission in September 2018. Following stage separation, SpaceX will land Falcon 9's first stage on the "Of Course I Still Love You" droneship, which will be stationed in the Atlantic Ocean. Approximately 45 minutes after liftoff, SpaceX's fairing recovery vessel, "Ms. Tree," will attempt to recover a payload fairing half.

The Starlink satellites will deploy at an altitude of 290 km. Prior to orbit raise, SpaceX engineers will conduct data reviews to ensure all Starlink satellites are operating as intended. Once the checkouts are complete, the satellites will then use their onboard ion thrusters to move into their intended orbits.

PAYLOAD DESCRIPTION

SpaceX is leveraging its experience in building rockets and spacecraft to deploy the world's most advanced broadband internet system. [Starlink](#) will provide fast, reliable internet to locations where access has been unreliable, expensive, or completely unavailable.

Starlink satellite flight operations take place in three phases: orbit raise, on-station service, and deorbit. After deployment, over the course of one to four months, the satellites use their onboard thrusters to raise from an altitude of 290 km to 550 km. During this phase of flight the satellites are closely clustered and their solar arrays are in a special low-drag configuration, making them appear more visible from the ground.

Once the satellites reach their operational altitude of 550km and begin on-station service, their orientation changes and the satellites become significantly less visible from the ground. On this flight, SpaceX is also testing an experimental darkening treatment on one satellite to further reduce the albedo of the body of the satellites.

Throughout flight operations, SpaceX shares high-fidelity tracking data with other satellite operators through the U.S. Air Force's 18th Space Control Squadron. Additionally, SpaceX is providing leading astronomy groups with predictive two-line elements (TLEs) in advance of launch so astronomers can better coordinate their observations with the satellites.

WEBCAST

Launch webcast will go live about 15 minutes before liftoff at [spacex.com/webcast](https://www.spacex.com/webcast)

PHOTOS

High-resolution photos will be posted at [flickr.com/spacex](https://www.flickr.com/photos/spacex/)



LAUNCH FACILITY

Falcon 9 will launch this Starlink mission from Space Launch Complex 40 (SLC-40) at Cape Canaveral Air Force Station in Florida. Learn more about SpaceX's launch facilities at spacex.com/about

SPACEX CONTACT

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MISSION TIMELINE (all times approximate)

COUNTDOWN

Hr/Min/Sec	Event
- 00:38:00	SpaceX Launch Director verifies go for propellant load
- 00:35:00	RP-1 (rocket grade kerosene) loading underway
- 00:35:00	1st stage LOX (liquid oxygen) loading underway
- 00:16:00	2nd stage LOX loading underway
- 00:07:00	Falcon 9 begins engine chill prior to launch
- 00:01:00	Command flight computer to begin final prelaunch checks
- 00:01:00	Propellant tank pressurization to flight pressure begins
- 00:00:45	SpaceX Launch Director verifies go for launch
- 00:00:03	Engine controller commands engine ignition sequence to start
- 00:00:00	Falcon 9 liftoff

LAUNCH, LANDING, AND DEPLOYMENT

Hr/Min/Sec	Event
00:01:13	Max Q (moment of peak mechanical stress on the rocket)
00:02:33	1st stage main engine cutoff (MECO)
00:02:36	1st and 2nd stages separate
00:02:43	2nd stage engine starts
00:03:24	Fairing deployment
00:06:41	1st stage entry burn complete
00:08:24	1st stage landing
00:08:49	2nd stage engine cutoff (SECO-1)
00:45:10	2nd stage engine restarts
00:45:12	2nd stage engine cutoff (SECO-2)
00:61:03	Starlink satellites begin deployment