Iridium-4 NEXT Mission

Mission Overview

SpaceX's Falcon 9 rocket will deliver 10 satellites to low-Earth orbit for Iridium, a global leader in mobile voice and data satellite communications. This is the fourth set of 10 satellites in a series of 75 total satellites that SpaceX will launch for Iridium's next generation global satellite constellation, Iridium® NEXT.

SpaceX is targeting launch of Iridium-4 from Space Launch Complex 4E (SLC-4E) at Vandenberg Air Force Base in California. The instantaneous launch window is at 5:27 p.m. PST on Friday, December 22, or 1:27 UTC on Saturday, December 23. The satellites will begin deployment about an hour after launch.

A backup launch opportunity is at 5:21 p.m. PST on Saturday, December 23, or 1:21 UTC on Sunday, December 24.

Official SpaceX Iridium-4 Mission Patch

Falcon 9's first stage for the Iridium-4 mission previously supported the Iridium-2 mission from SLC-4E in June 2017. SpaceX will not attempt to recover Falcon 9's first stage after launch.

Payload

The payloads for this launch are the fourth set of 10 Iridium[SM] NEXT satellites. Iridium NEXT will replace the world's largest commercial satellite network of low-Earth orbit satellites in what will be one of the largest "tech upgrades" in history. Iridium has partnered with Thales Alenia Space for the manufacturing, assembly and testing of all 81 Iridium NEXT satellites, 75 of which will be launched by SpaceX. The process of replacing the satellites one-by-one in a constellation of this size and scale has never been completed before.

Iridium NEXT is enabling the development of new and innovative products and services including Iridium Certus[SM], the Company's next-generation communications platform. Iridium Certus will deliver faster speeds and higher throughputs for Iridium's vast partner ecosystem that provides services for aviation, maritime, Internet of Things, terrestrial and government organizations. A service of this quality and value is unprecedented in the industry, and is poised to disrupt the current market status quo. Among the new technologies hosted by Iridium NEXT is the Aireon[SM] aircraft tracking and surveillance system. In a historic first, upon completion this system will provide air traffic control organizations and aircraft operators that purchase the service with real-time, global visibility of ADS-B equipped aircraft.

Iridium's primary launch campaign consists of eight SpaceX Falcon 9 launches deploying 75 Iridium NEXT satellites. These 75 Iridium NEXT satellites are scheduled to be deployed by mid-2018. Iridium is the only mobile voice and data satellite communications network that spans the entire globe. Iridium enables real-time connections between people, organizations and assets to and from anywhere.

Mission Timeline (all times approximate)

COUNTDOWN

Hour/Min/Sec	Events
- 01:13:00	SpaceX Launch Director verifies go for propellant load
- 01:10:00	RP-1 (rocket grade kerosene) loading underway
- 00:35:00	LOX (liquid oxygen) 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 AND SATELLITE DEPLOYMENTS

Hour/Min/Sec	Events
00:01:14	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
00:02:38	2nd stage engine starts
00:03:11	Fairing deployment
00:09:00	2nd stage engine cutoff (SECO-1)
00:51:54	2nd stage engine restarts
00:52:05	2nd stage engine cutoff (SECO-2)
00:57:05	Iridium NEXT satellites begin deployment
01:12:00	Iridium NEXT satellites end deployment

Launch Facility

Space Launch Complex 4E at Vandenberg Air Force Base, California
SpaceX's Space Launch Complex 4E at Vandenberg Air Force Base has a long history dating back to the early 1960s. Originally an Atlas launch pad activated in 1962, SLC-4E was in active use until its last Titan IV launch in 2005. SpaceX's groundbreaking was in July 2011, and the pad was completed just 17 months later in November 2012. SpaceX took advantage of some existing pad infrastructure, but implemented extensive modifications and reconstruction of the launch complex. Part of the renovation included tearing down a 30+ story mobile service tower and a 20+ story umbilical tower. 97 percent of these units were recycled.

SLC-4E consists of a concrete launch pad/apron and a flame exhaust duct. Surrounding the pad are RP-1 and liquid oxygen storage tanks and an integration hangar. Before launch, Falcon 9's stages, fairing and the mission payload are housed inside the hangar. A crane/lift system moves Falcon 9 into a transporter erector system and the fairing and its payload are mated to the rocket. The vehicle is rolled from the hangar to the launch pad shortly before launch to minimize exposure to the elements.

Resources

SpaceX Contact | John Taylor, Director of Communications, 310-363-6703, media@spacex.com.
Photos | High-resolution photos will be posted at flickr.com/spacex.
Webcast | Launch webcast will go live about 15 minutes before liftoff at spacex.com/webcast.