

Iridium-1 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. The 10 satellites are the first of at least 70 satellites that SpaceX will be launching for Iridium's next generation global satellite constellation, Iridium NEXT.

SpaceX is targeting launch of Iridium-1 from Space Launch Complex 4E at Vandenberg Air Force Base in California. The instantaneous launch window opens on January 14 at 9:54:39 am PST or 5:54:39 pm UTC. The satellites will begin deployment about an hour after launch.

A backup launch opportunity on January 15 opens at 9:49:04 am PST or 5:49:04 pm UTC.

Following stage separation, the first stage of Falcon 9 will attempt a landing on the "Just Read the Instructions" droneship that will be stationed in the Pacific Ocean.

Payload

The payloads for this launch are the first 10 Iridium 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 81 Iridium NEXT satellites, at least 70 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 will enable the development of new and innovative products and solutions across Iridium's vast partner ecosystem. Additionally, Iridium Certus, the next-generation multi-service communications platform enabled by Iridium NEXT, will deliver faster speeds and higher throughputs across multiple industry verticals. A service of this quality and value is unprecedented in the industry, and is poised to disrupt the current market status quo. Currently, the service is set to be commercially available in 2017 and is undergoing testing on Iridium's existing network.

Iridium's primary launch campaign consists of seven SpaceX Falcon 9 launches, deploying ten Iridium NEXT satellites at a time. These 70 Iridium NEXT satellites are scheduled to be deployed by early 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.



Official SpaceX Iridium-1 mission patch

Mission Timeline (all times approximate)

COUNTDOWN

Hour/Min/Sec	Events
- 01:18:00	Launch Conductor takes launch readiness poll
- 00:70:00	RP-1 (rocket grade kerosene) loading underway
- 00:45:00	LOX (liquid oxygen) loading underway
- 00:07:00	Falcon 9 begins engine chill prior to launch
- 00:02:00	Range Control Officer (USAF) verifies range is go for launch
- 00:01:30	SpaceX Launch Director verifies go for launch
- 00:01:00	Command flight computer to begin final prelaunch checks
- 00:01:00	Pressurize propellant tanks
- 00:00:03	Engine controller commands engine ignition sequence to start
00:00:00	Falcon 9 liftoff

LAUNCH AND SATELLITE DEPLOYMENT

Hour/Min/Sec	Events
00:01:09	Max Q (moment of peak mechanical stress on the rocket)
00:02:24	1st stage engine shutdown/main engine cutoff (MECO)
00:02:27	1st and 2nd stages separate
00:02:35	2nd stage engine starts
00:03:15	Fairing deployment
00:07:49	1st stage landing
00:09:09	2nd stage engine cutoff (SECO-1)
00:52:31	2nd stage engine restarts
00:52:34	2nd stage engine cutoff (SECO-2)
00:59:16	Iridium NEXT satellites begin deployment
01:14:16	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, 4E was in active use until a 2005 Titan IV launch. SpaceX's groundbreaking was in July 2011, and the pad was completed in November 2012 in just 17 months. SpaceX took advantage of some existing infrastructure, but implemented extensive modifications and reconstruction of the pad. Part of the renovation included tearing down a 30+ story mobile service tower and a 20+ story umbilical tower, and 97 percent of these units were recycled.

The complex consists of a concrete launch pad/apron and a flame exhaust duct. Surrounding the pad are fuel storage tanks and the integration hangar. Before launch, Falcon 9's stages, SpaceX's fairing and the launch payload are housed inside the hangar. A crane/lift system moves Falcon into a transporter erector system and the fairing and its payload are mated to the rocket. The vehicle is rolled from hangar to 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](https://www.flickr.com/photos/spacex/).

WEBCAST | Launch webcast will be live about 20 minutes before launch at [spacex.com/webcast](https://www.spacex.com/webcast).