

SAOCOM 1A Mission

MISSION OVERVIEW

SpaceX is targeting Sunday, October 7 for the launch of the SAOCOM 1A satellite from Space Launch Complex 4E (SLC-4E) at Vandenberg Air Force Base in California.

The instantaneous launch opportunity is on Sunday, October 7 at 7:21 p.m. PDT, or Monday, October 8 at 2:21 UTC, and the satellite will be deployed about 12 minutes after launch.

A backup instantaneous launch opportunity is available on Thursday, October 11 at 7:21 p.m. PDT, or Friday, October 12 at 2:21 UTC.

Following stage separation, Falcon 9's first stage will return to land at SpaceX's Landing Zone 4 (LZ-4) at Vandenberg Air Force Base. This is SpaceX's first attempt at a land landing on the West Coast. LZ-4 is built on the former site of Space Launch Complex 4W, from which Titan rockets were previously launched.

PAYOUT

The SAOCOM 1A satellite is operated by Argentina's Space Agency, the National Commission on Space Activities (CONAE). The satellite carries an active instrument consisting of a Synthetic Aperture Radar (SAR), which works in the microwave range of the electromagnetic spectrum, particularly the L-band.

The SAOCOM 1 mission consists of a constellation of two identical satellites, SAOCOM 1A and 1B, each of which carries an L-Band SAR polarimetric instrument. The mission's main purpose is to gather soil moisture information. SAOCOM 1, together with the Italian COSMO-SkyMed X-Band SAR constellation, comprise the Italian-Argentine Satellite System for Emergency Management (SIASGE), a partnership between CONAE and the Italian Space Agency (ASI). Flying both constellations along the same orbit supports a rapid response by providing SAR information in emergency situations. International partnerships include ground support from ESA (Europe), and technical support from CSA (Canada) and NASA (US).

SAOCOM was developed by CONAE within the framework of the National Space Program, with the participation of companies and organizations of the national system of science and technology like the Atomic Energy Commission (CNEA) and companies like VENG and INVAP, who is the primary contractor of the project.



Official SpaceX SAOCOM 1A Mission Patch

MISSION TIMELINE (ALL TIMES APPROXIMATE)

COUNTDOWN

Hour/Min/Sec	Events
- 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 SATELLITE DEPLOYMENT

Hour/Min/Sec	Events
00:00:59	Max Q (moment of peak mechanical stress on the rocket)
00:02:20	1st stage main engine cutoff (MECO)
00:02:24	1st and 2nd stages separate
00:02:31	2nd stage engine starts
00:02:36	Boostback burn
00:02:48	Fairing deployment
00:05:57	1st stage entry burn
00:07:46	1st stage landing
00:10:07	2nd stage engine cutoff (SECO-1)
00:12:37	SAOCOM 1A satellite 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 extensive modifications and reconstruction of the launch pad were completed just 17 months later.

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 | Eva Behrend, Sr. Communications Manager, 310-363-6247, 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.